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DEPARTMENT OF THE ARMY TECHNICAL MANUAL **TM 9-2330-213-14&P**

DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER **TO 36A11-1-461**

COMPLETED
449

TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

725
70

CHASSIS TRAILER:
1 1/2-TON, 2-WHEEL,

M103A1 (NSN 2330-00-835-8[illegible]),
M103A2 (NSN 2330-00-049-8050),
M103A3 (NSN 2330-00-141-8052),
M103A3C (NSN 2330-00-542-2181),
M103A4 (NSN 2330-00-141-8051)

ORIGI...

TRAILER, CARGO:
1 1/2-TON, 2-WHEEL,

M105A1 (NSN 2330-00-835-8631),
M105A2 (NSN 2330-00-141-8050),
M105A2C (NSN 2330-00-542-5689)

TRAILER, TANK, WATER:
1 1/2-TON, 2-WHEEL, 400-GALLON,

M107A1 (NSN 2330-00-835-8633),
M107A2 (NSN 2330-00-141-8049),
M107A2C (NSN 2330-00-542-5688)

TRAILER, VAN, SHOP: FOLDING SIDES, 1 1/2-TON, 2-WHEEL,

M448 (NSN 2330-00-631-5692)

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OPERATOR PMCS PAGE 2-6
OPERATOR MAINTENANCE PAGE 3-1
OPERATOR TROUBLESHOOTING PAGE 3-1
ORGANIZATIONAL MAINTENANCE PAGE 4-1
ORGANIZATIONAL PMCS PAGE 4-7
ORGANIZATIONAL TROUBLESHOOTING PAGE 4-10
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MAINTENANCE ALLOCATION CHART PAGE B-1
REPAIR PARTS AND SPECIAL TOOLS LIST PAGE F-1

HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE AIR FORCE

SEPTEMBER 1985

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WARNING

USING DRYCLEANING SOLVENT

Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (59°C). Serious injury, illness, or loss of life could result.

WARNING

COUPLING

All persons not involved in coupling operation must stand clear of towing vehicle and trailer to prevent serious injury.

WARNING

UNCOUPLING

All persons not involved in uncoupling operation must stand clear of towing vehicle and trailer to prevent serious injury.

WARNING

ASBESTOS DUST

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system. Clean dirt or mud from brake assemblies with a bristle brush or cloth and water.

WARNING

BRAKE AIR CHAMBER SPRING

The return spring inside the air chamber is under tension. The two halves of the chamber must be clamped together in a vise before removing all of the screws and nuts that hold it together. Failure to do so could cause serious injury to personnel.

WARNING

USE OF COMPRESSED AIR

Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury when using compressed air.

WARNING

OVERHEATED HUBS AND BRAKEDRUMS

Feel brakedrums and hubs cautiously. Brakedrums and hubs may be very hot. Failure to do so may cause injury to personnel.

WARNING

IMPROPER CLEANING METHODS

Improper cleaning methods and use of unauthorized cleaning liquids or solvent can injure personnel and damage equipment. Refer to TM 9-247.

WARNING

HANDLING WATER FOR DRINKING

The highest sanitary practices must be exercised in handling water for drinking purposes. Serious illness could result from impure drinking water.

WARNING

IMPROPERLY SEATED LOCKRING

Improperly seated lockring could blow off. Never attempt to seat a lockring when tire is inflated. Serious injury or loss of life could result.

WARNING

STOWING LOOSE EQUIPMENT

Before moving trailer, check to see that all loose equipment is properly stowed away and that nothing will be dragging on the ground. If trailer is loaded, check to see that load is properly secured. Injury to personnel or damage to equipment could result.

WARNING

USING LIQUID DISHWASHING COMPOUND

Follow manufacturer's instructions for use of liquid dishwashing compound. Avoid contact with eyes and prolonged contact with skin. Do not inhale fumes or swallow. Serious injury or illness could result from improper use.

WARNING

110-VOLT ELECTRICAL SYSTEM

Be sure power inlet cable is disconnected from outside housing assembly before working on 110-volt electrical system or injury or loss of life may result.

WARNING

AUXILIARY POWER

To prevent electrical shock, disconnect auxiliary power source. Failure to do so may result in serious injury or loss of life.

WARNING

PARKING TRAILER

When parked on an uphill slope, ensure pintle is in upright position and determine if lunette is exerting pressure on upper jaw before disconnecting trailer from towing vehicle. If pressure is indicated, do not disconnect trailer. Tow trailer to a more level area so that lunette rests at bottom of pintle before disconnecting. Failure to do so may cause trailer to tip back, resulting in damage to trailer and injury to personnel.

WARNING

CLEANING AND REFINISHING WATER TANK INTERIOR

A safety rope must be secured around the chest and under the arms of a person entering the water tank. The opposite end of the rope must be held by a person stationed outside the water tank. This will allow quick removal of person in water tank in the event of accident or personal injury.

Protective clothing and face mask must be worn at all times during cleaning and refinishing operation.

While performing abrasive cleaning operation, personnel must wear rubber gloves, canvas sleeves, safety shoes, rubberized apron or jacket, and protective mask. A portable air filter also is used.

An adequate air evacuation system, to quickly exhaust fumes from inside water tank, must be used.

*TM 9-2330-213-14&P
TO 36A11-1-461

TECHNICAL MANUAL
NO. 9-2330-213-14&P
TECHNICAL ORDER
NO. 36A11-1-461

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
WASHINGTON, DC, *30 Sept 1985*

Operator's, Organizational, Direct Support, and General Support Maintenance (Including Repair Parts and Special Tools List)

CHASSIS TRAILER: 1 1/2-TON, 2-WHEEL, M103A1 (NSN 2330-00-835-8629), M103A2 (NSN 2330-00-049-8050), M103A3 (NSN 2330-00-141-8052), M103A3C (NSN 2330-00-542-2181), M103A4 (NSN 2330-00-141-8051)

TRAILER, CARGO: 1 1/2-TON, 2-WHEEL, M105A1 (NSN 2330-00-835-8631), M105A2 (NSN 2330-00-141-8050), M105A2C (NSN 2330-00-542-5689)

TRAILER, TANK, WATER: 1 1/2-TON, 2-WHEEL, 400-GALLON, M107A1 (NSN 2330-00-835-8633), M107A2 (NSN 2330-00-141-8049), M107A2C (NSN 2330-00-542-5688)

TRAILER, VAN, SHOP: FOLDING SIDES, 1 1/2-TON, 2-WHEEL, M448 (NSN 2330-00-631-5692)

Current as of October 19, 1984

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be sent to you.

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*This manual supersedes TM 9-2330-213-14, dated 18 August 1972; including all changes.

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HOW TO USE THIS MANUAL

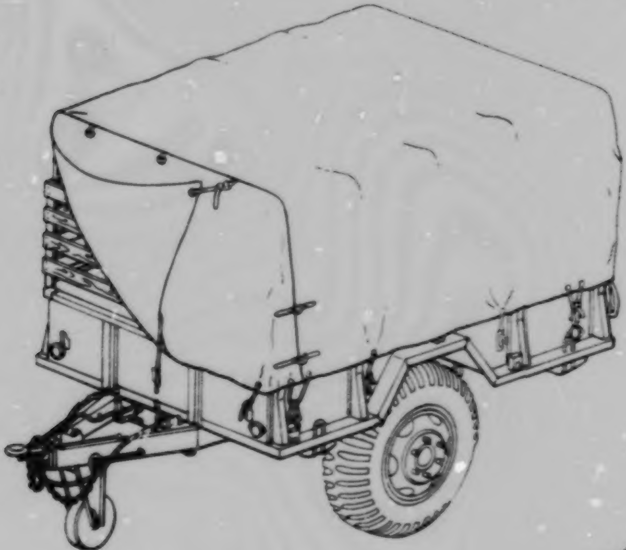
This manual is designed to help you operate and maintain the M103 series trailers. The front cover table of contents is provided for quick reference to important information. There is also an index located in the final pages for use in locating specific items of information.

Measurements in this manual are given in both US standard and metric units. A metric to US standard conversion chart can be found on the inside back cover.

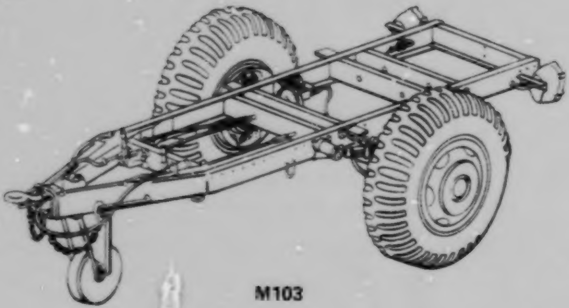
Read all preliminary information found at the beginning of each task. It has important information and safety instructions you must follow before beginning the task.

Warning pages are located in the front of this manual. You should read the warnings before operating or doing maintenance on the equipment.

A subject index appears at the beginning of each chapter listing sections that are included in that chapter. A more specific subject index is located at the beginning of each section to help you find the exact paragraph you're looking for.



M105



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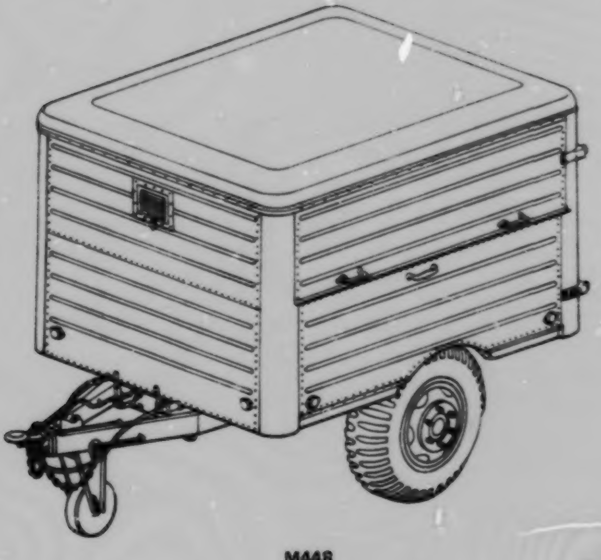

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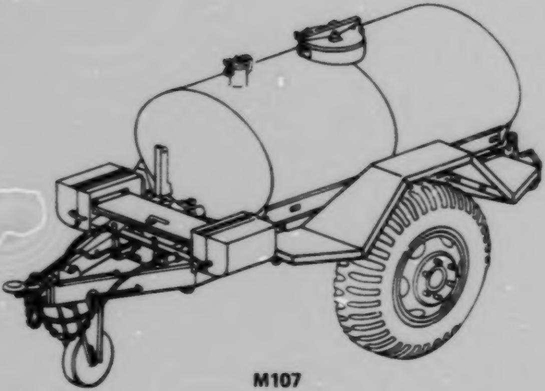

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CHAPTER 1

INTRODUCTION

OVERVIEW

The purpose of this chapter is to give you information about the size, shape, and major equipment of the M103 series chassis and how they work.

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Section II. Equipment Description and Data 1-2
Section III. Principles of Operation 1-13

Section I. GENERAL INFORMATION

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Maintenance Forms and Records 1-2
Preparation for Storage and Shipment 1-2
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SCOPE

Type of Manual: Operator's, Organizational, Direct Support, and General Support Maintenance (including Repair Parts and Special Tools List).

Equipment Name and Model Numbers:
Trailer, Cargo: 1 1/2-Ton, 2-Wheel, M105A1 with trailer chassis model number M103A1.
Trailer, Cargo: 1 1/2-Ton, 2-Wheel, M105A2 with trailer chassis model number M103A3.
Trailer, Cargo: 1 1/2-Ton, 2-Wheel, M105A2C with trailer chassis model number M103A3C.
Trailer, Van, Shop: Folding Sides, 1 1/2-Ton, 2-Wheel, M448 with trailer chassis model number M103A3.
Trailer, Tank, Water: 1 1/2-Ton, 2-Wheel, 400-Gallon, M107A1 with trailer chassis model number M103A2.
Trailer, Tank, Water: 1 1/2-Ton, 2-Wheel, 400-Gallon, M107A2 and M107A2C with chassis model number M103A4.

Purpose of Equipment: The cargo trailer series M105A1, M105A2, and M105A2C are used to carry a maximum payload of 3000 lb (1362 kg) cross country and 3000 lb (1362 kg) highway.

The water tank trailer series M107A1, M107A2, and M107A2C are used to transport water. It will carry a maximum payload of 3335 lb (1514 kg) either cross country or highway.

The folding side shop van trailer M448 is used as a mobile battery or paint shop. It will carry a maximum payload of 3000 lb (1362 kg) cross country or 3000 lb (1362 kg) highway.

MAINTENANCE FORMS AND RECORDS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750 as contained in Maintenance Management Update.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-6, Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use.

PREPARATION FOR STORAGE AND SHIPMENT

See chapter 4, section XVII for instructions on preparation for storage and shipment.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your trailer needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Tank-Automotive Command, ATTN: AMSTA-MP, Warren, MI 48397-5000. We will send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

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Equipment Data	1-10
Location and Description of Data Plates	1-9
Location and Description of Major Components	1-3

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

CHARACTERISTICS

Operates on 24-volt electrical system

Has two-wheel single axle with leaf-spring suspension

Has manually operated parking brake

All chassis models except the M103A3C have air/hydraulic brake systems.

M103A3C chassis model has vacuum/hydraulic brake systems.

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES – CONTINUED

Has retractable landing leg to support front of trailer when uncoupled from towing vehicle

Has automatic emergency braking in event of trailer breakaway from towing vehicle

May be towed by 6 by 6, 2 1/2-ton, M35 cargo truck

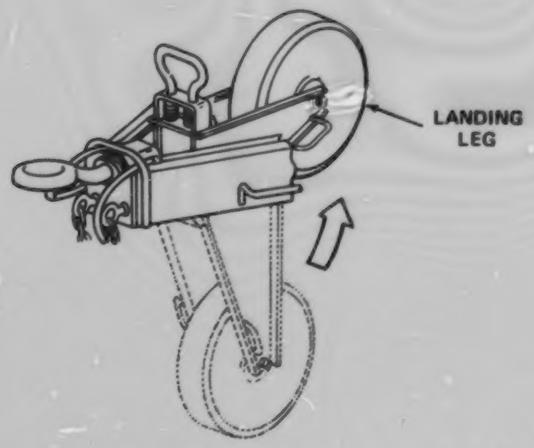
CAPABILITIES AND FEATURES

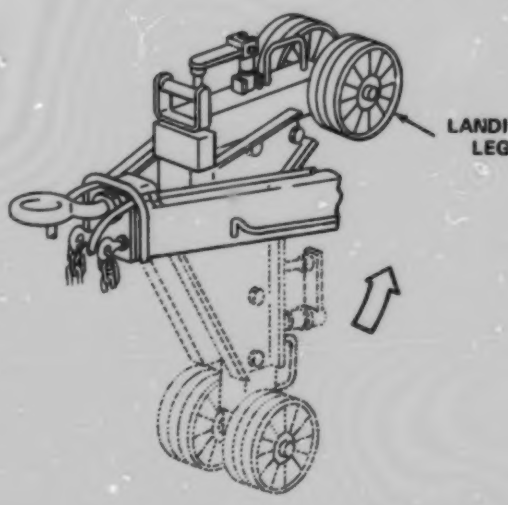
Payload, Maximum	
Cross country	
M105 series	3000 lb (1362 kg)
M107 series	3335 lb (1514 kg)
M448	3000 lb (1362 kg)
Highway	
M105 series	3000 lb (1362 kg)
M107 series	3335 lb (1514 kg)
M448	3000 lb (1362 kg)
Speed Restrictions, Maximum	
Cross country	30 mph (48 km/h)
Highway	50 mph (80 km/h)

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

LANDING LEG (ALL MODELS)

A manually operated adjustable landing leg supports the front of trailer when not coupled and can be folded back into a stowed position after coupling. There are two different types of landing legs. One of the two landing legs will be installed on the trailer.





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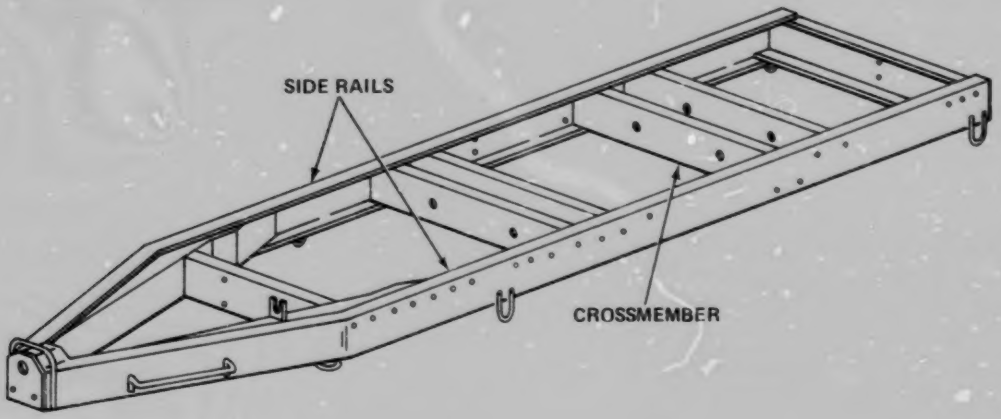
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – CONTINUED

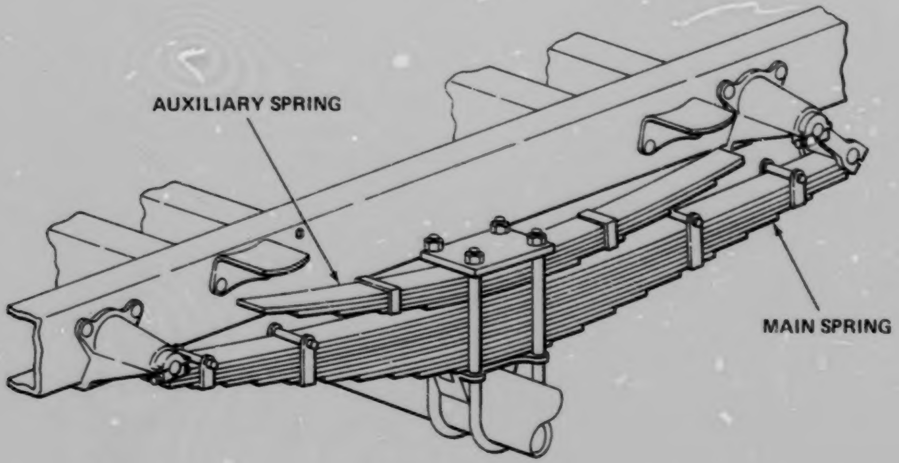
FRAME

The M103 series chassis frame is made of two pressed-steel side rails, reinforced by six pressed-steel crossmembers. All members are welded together to form an integral frame assembly.



SUSPENSION

The chassis frame of the M103 series trailer is supported by semielliptical springs that are mounted on the axle supported by single wheels and tires. The main spring is composed of 12 lower leaves and the auxiliary spring is composed of 5 upper leaves.



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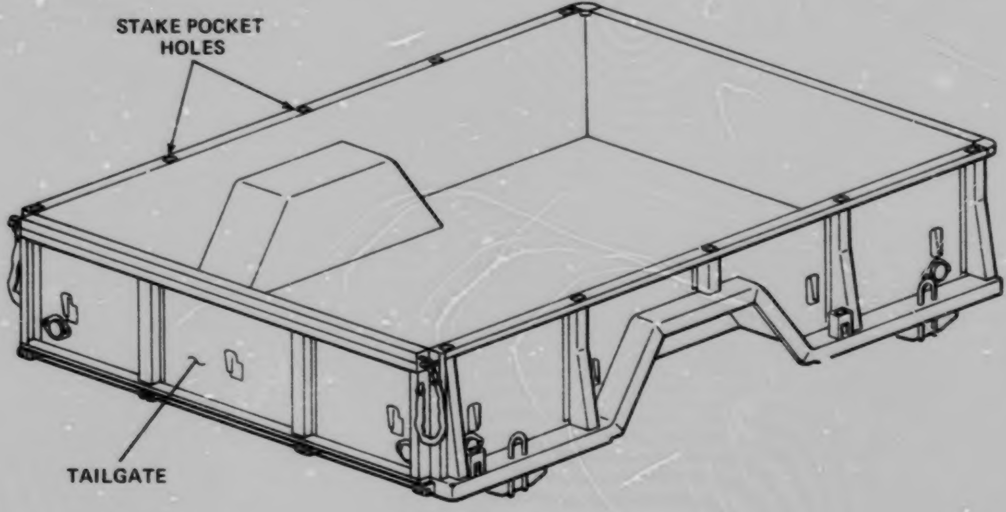
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – CONTINUED

BODY, CARGO

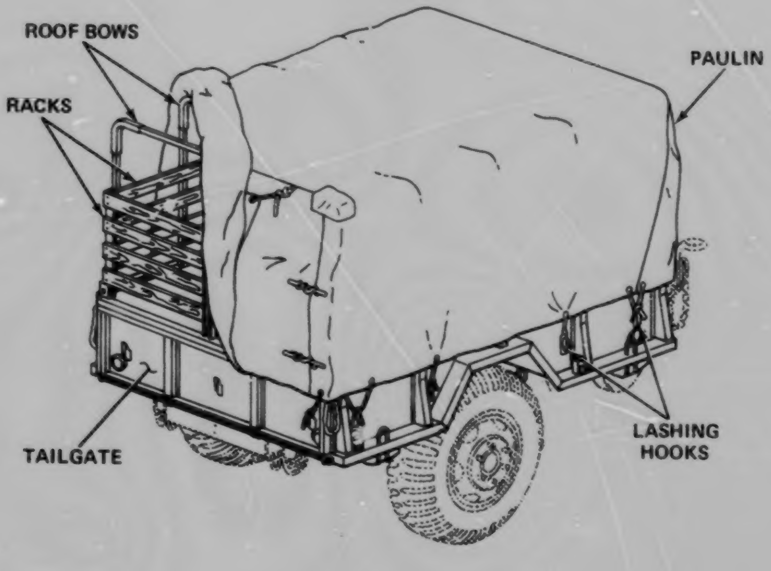
The M105 series cargo body is made of one-piece, welded construction and is equipped with a tailgate. The left- and right-side body walls have stake pocket holes in which four stake racks may be installed.


STAKE POCKET HOLES
TAILGATE

STAKE RACKS AND ROOF BOWS

The M105 series trailer has removable side, front, and rear stake racks and roof bows to which a paulin may be attached to lashing hooks to protect cargo from inclement weather.

A tailgate provides easy access to trailer cargo.

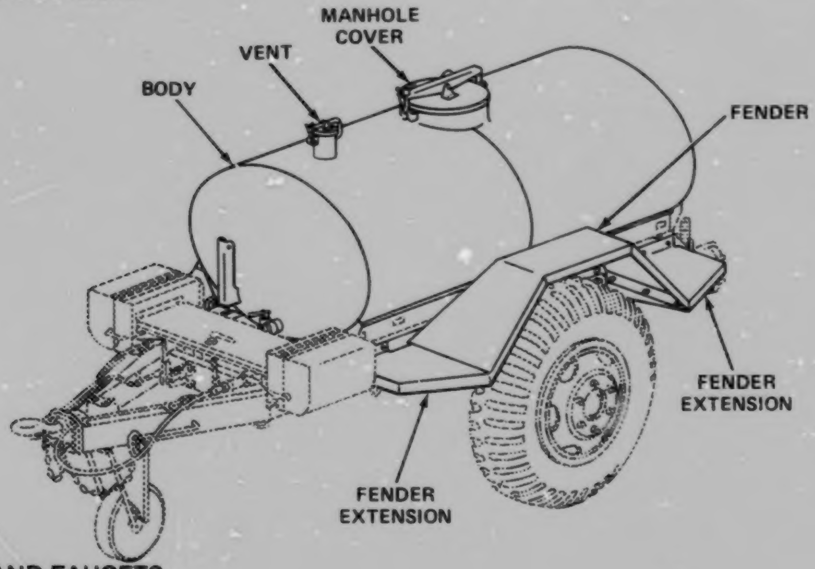

ROOF BOWS
RACKS
PAULIN
TAILGATE
LASHING HOOKS

TA231010

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – CONTINUED

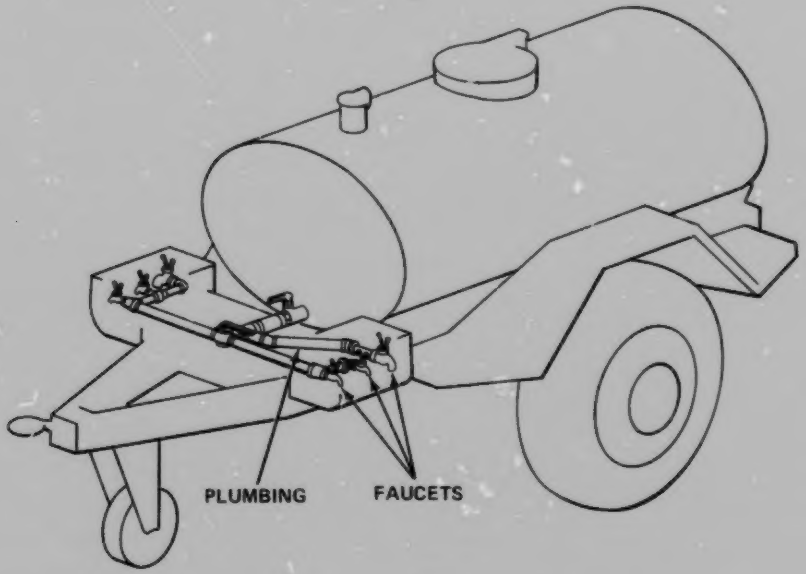
BODY, WATER TANK

The M107 series trailer has a closed aluminum water tank body equipped with manhole cover, vent, fenders, and fender extensions.


MANHOLE COVER
VENT
BODY
FENDER
FENDER EXTENSION
FENDER EXTENSION

PIPING, VALVES, AND FAUCETS

The M107 series trailer has a system of plumbing and faucets for convenient dispensing of the water contained in its tank.


PLUMBING
FAUCETS

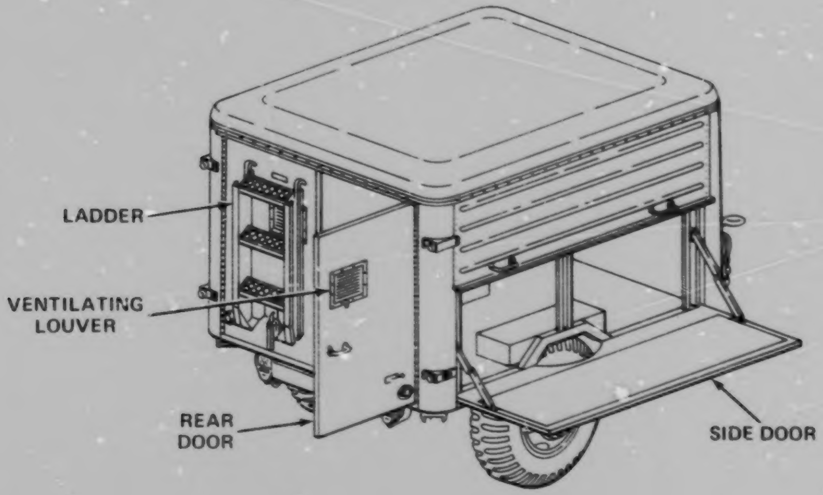
TA231011

BEST COPY AVAILABLE

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – CONTINUED

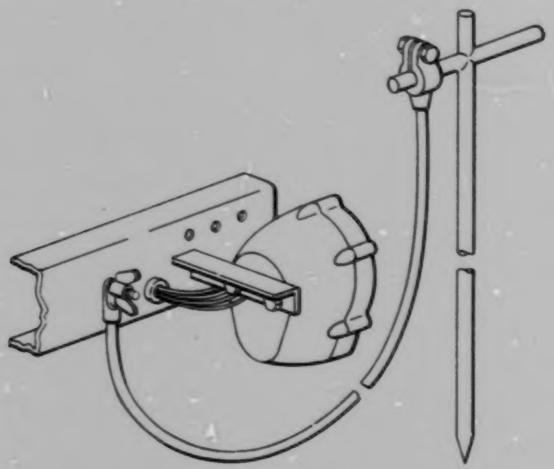
BODY, SHOP VAN

The M448 shop van has a closed-type body constructed of aluminum. It is equipped with two side-hinged rear doors and one bottom-hinged door on each side. The side doors fold down to form a floor-level working area. The rear doors contain louvers for ventilation. A three-step aluminum ladder is stored on the outside of the left-rear door.



GROUND ROD

The M448 shop van has a ground rod that is used as an earth ground when using 110-volt electrical system.

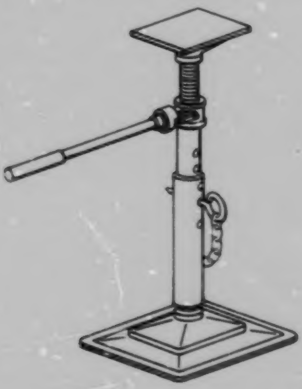


TA231012

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – CONTINUED

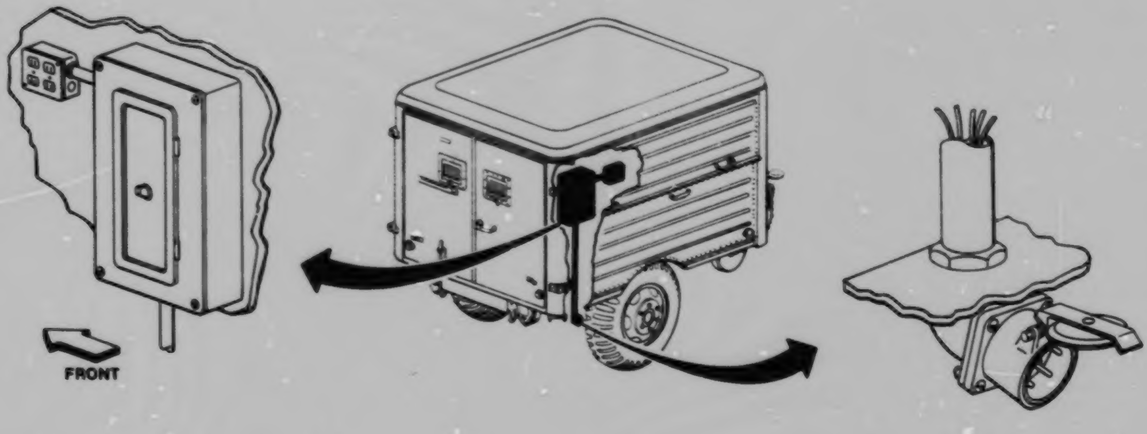
LEVELING JACK

The M448 shop van has two manually operated leveling jacks, one at each rear corner of the trailer, to provide additional stability during shop operation.



ELECTRICAL SYSTEM, 110-VOLT

At the right-rear corner of the M448 shop van, a 110-volt receptacle is located for connection of an external 110-volt power source.

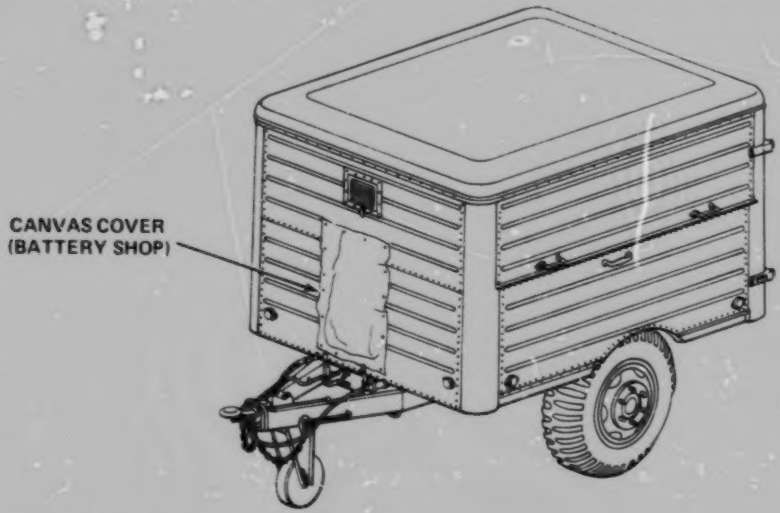


TA231013

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – CONTINUED

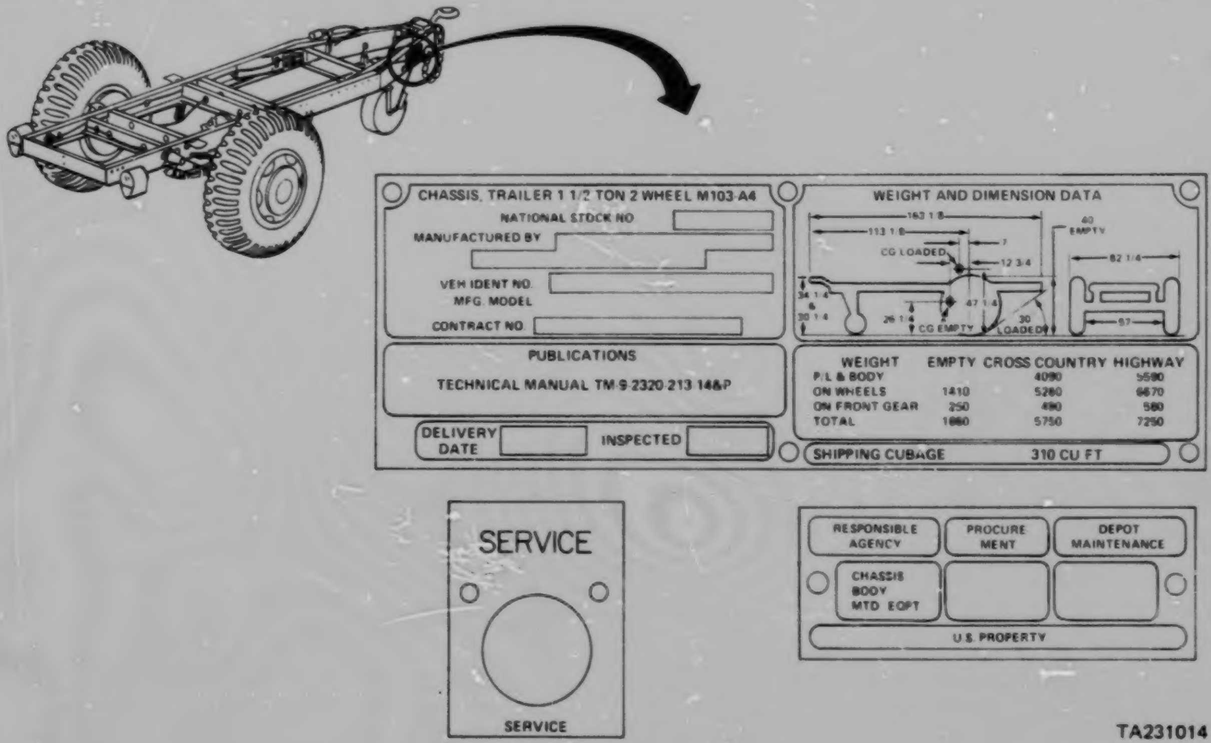
CANVAS COVER

The M448 shop van has a removable canvas cover to protect battery generating unit when not in use.


CANVAS COVER
(BATTERY SHOP)

LOCATION AND DESCRIPTION OF DATA PLATES

The three data plates located on the outside-right drawbar of the M103 series chassis frame provide identification, registration, weights, dimensions, and service information for the different bodies being attached to make a complete trailer.



CHASSIS, TRAILER 1 1/2 TON 2 WHEEL M103-A4

NATIONAL STOCK NO
MANUFACTURED BY
VEH IDENT NO.
MFG. MODEL
CONTRACT NO.

PUBLICATIONS

TECHNICAL MANUAL TM 9-2320-213-14&P

DELIVERY DATE
INSPECTED

WEIGHT AND DIMENSION DATA

163 1/8
113 1/8
7
CG LOADED
12 3/4
40
EMPTY
82 1/4
34 1/4
&
30 1/4
26 1/4
CG EMPTY
47 1/4
30
LOADED
57

WEIGHT	EMPTY	CROSS COUNTRY	HIGHWAY
P/L & BODY		4090	5590
ON WHEELS	1410	5260	6670
ON FRONT GEAR	250	490	580
TOTAL	1660	5750	7250

SHIPPING CUBAGE 310 CU FT

SERVICE

SERVICE

RESPONSIBLE AGENCY	PROCURE MENT	DEPOT MAINTENANCE
CHASSIS BODY MTD EQPT		

U.S. PROPERTY

TA231014

EQUIPMENT DATA

CARGO TRAILERS (M105 SERIES)

Dimensions inside	
Height	
To top of side panels	1 ft 6 in. (45.72 cm)
To top of racks	3 ft 9 in. (114.3 cm)
To underside of bows	5 ft (152.4 cm)
Length	
Body	9 ft 2 in. (279.4 cm)
Rack	9 ft 3 in. (281.9 cm)
Width	
Body	6 ft 2 in. (188 cm)
Rack	6 ft 1 in. (185.4 cm)
Dimensions overall	
Height, less paulin (empty)	8 ft 2 in. (248.9 cm)
Length	13 ft 9 1/2 in. (420.4 cm)
Width	6 ft 11 in. (210.8 cm)
Lunette (adjustable)	30 1/4 or 34 1/4 in. (76.8 or 87 cm)
Weights	
Payload maximum	
Cross country	3000 lb (1362 kg)
Highway	3000 lb (1362 kg)
Vehicle (net)	2650 lb (1203.1 kg)
Total	
Cross country	5650 lb (2565.1 kg)
Highway	5650 lb (2565.1 kg)
Towing vehicle	2 1/2 tons, 6 by 6

WATER TANK TRAILERS (M107 SERIES)

Capacity of tank (nominal)	400 gal. (1514 L)
Dimensions overall	
Height	
To top of tank manhole cover	6 ft 4 3/4 in. (194.9 cm)
Length	13 ft 7 1/8 in. (414.3 cm)
Width	6 ft 10 1/4 in. (208.9 cm)
Lunette (adjustable)	30 1/4 or 34 1/4 in. (76.8 or 87 cm)

EQUIPMENT DATA - CONTINUED

Weights	
Payload maxium	
Cross-country	3360 lb (1525 kg)
Highway	3360 lb (1525 kg)
Vehicle (net)	2280 lb (1035 kg)
Towing vehicle	2 1/2 tons, 6 by 6

FOLDING SIDE SHOP VAN TRAILER (M448)

Dimensions overall	
Height (empty)	8 ft 5 5/8 in. (258.1 cm)
Length	13 ft 9 1/2 in. (420.4 cm)
Width	7 ft 7 in. (231 cm)
Van body over chassis	5 ft 6 in. (167.6 cm)
Weights	
Payload maximum	
Cross country	3000 lb (1362 kg)
Highway	3000 lb (1362 kg)
On wheels	
Empty	2625 lb (1191.75 kg)
Cross country	5625 lb (2554 kg)
Highway	5625 lb (2554 kg)
On front gear	
Empty	335 lb (152.09 kg)
Cross country	520 lb (236.08 kg)
Highway	520 lb (279 kg)
Total	
Empty	2960 lb (1343.8 kg)
Cross country	5960 lb (2705.8 kg)
Highway	5960 lb (2706 kg)
Lunette (adjustable)	30 1/4 or 34 1/4 in. (76.8 or 87 cm)
Shipping cubage	863 cu ft (24.16 cu m)
Towing vehicle	2 1/2 tons, 6 by 6

DIFFERENCES BETWEEN MODELS

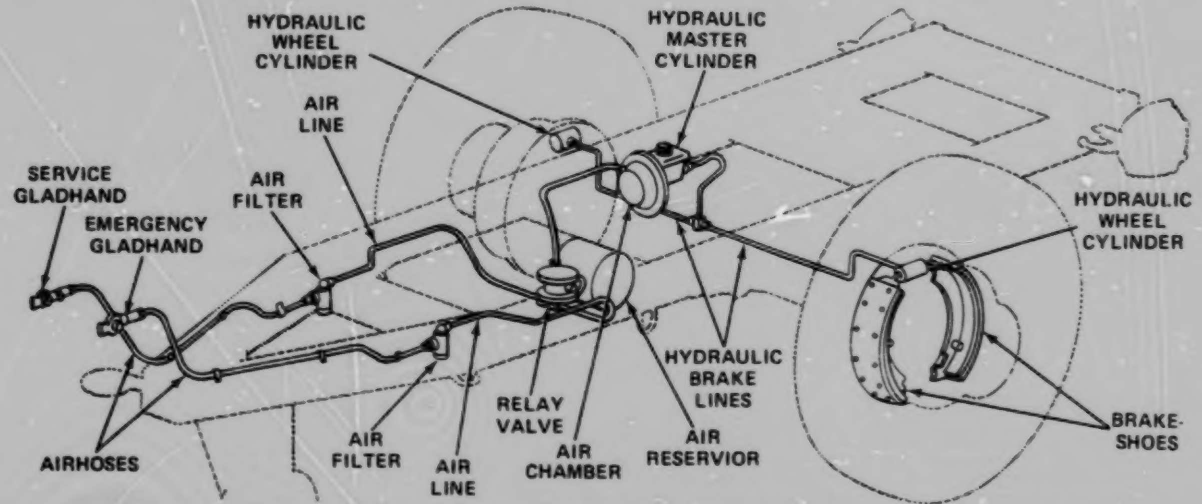
	TRAILER CHASSIS				
	M103A1	M103A2	M103A3	M103A3C	M103A4
Cargo Trailer Body					
M105A1	x				
M105A2			x		
M105A2C				x	
Water Tank Body					
M107A1		x			
M107A2					x
M107A2C					x
Shop Van Body					
M448			x		
Brake Systems					
Air/hydraulic	x	x	x		x
Vacuum/hydraulic				x	
Lights					
Blackout tail and stoplight	x	x			
Blackout tail and service stoplight	x	x			
Blackout stoplight			x	x	x
Blackout and service taillight and service stoplight (two each)			x	x	x
Composite light	x	x	x	x	x

Section III. PRINCIPLES OF OPERATION

	Page		Page
Brake System	1-13	Electrical System	1-16

BRAKE SYSTEM

AIR/HYDRAULIC (M103A3 AND M103A4 CHASSIS)



HYDRAULIC WHEEL CYLINDER
HYDRAULIC MASTER CYLINDER
AIR LINE
SERVICE GLADHAND
AIR FILTER
EMERGENCY GLADHAND
HYDRAULIC WHEEL CYLINDER
HYDRAULIC BRAKE LINES
RELAY VALVE
BRAKE-SHOES
AIR FILTER
AIR RESERVIOR
AIR CHAMBER
AIRHOSES
AIR LINE

Gladhands – The gladhands are the coupling point for the trailer brake system to towing vehicle. They are marked, one for emergency and the other for service, to ensure correct hookup.

Airhoses – The airhoses connect the trailer brake system to the towing vehicle's.

Air Lines – The air lines connect the trailer's airbrake system components together.

Air Filters – The air filter cleans the towing vehicle's air of moisture and foreign matter.

Relay Valve – The relay valve initiates a service or emergency stop based on signals received from the towing vehicle by sending air reservoir pressure to the brake chamber.

Air Chamber – The air chamber uses air pressure to operate the master cylinder.

Air Reservoir – The air reservoir stores air from the towing vehicle to operate the trailer braking system.

Hydraulic Master Cylinder – The hydraulic master cylinder converts the mechanical motion of the brake air chamber to hydraulic pressure.

Hydraulic Brake Lines – The hydraulic brake lines transfer hydraulic pressure from the hydraulic master cylinder to the wheel cylinders.

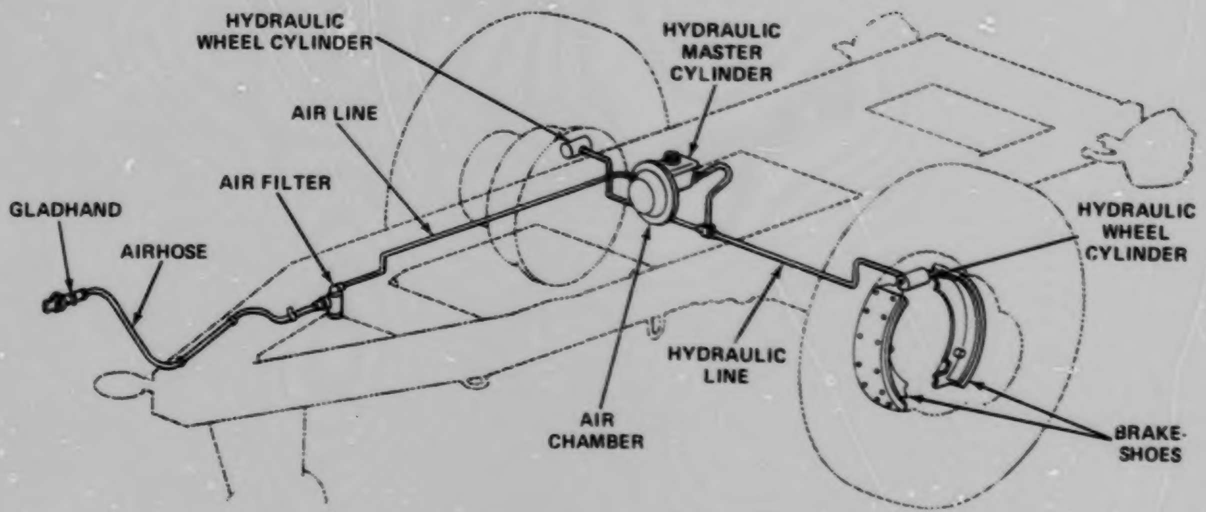
Hydraulic Wheel Cylinders – The hydraulic wheel cylinders convert system hydraulic pressure to mechanical motion and force the brake lining against the brakedrum.

Brakeshoes – The brakeshoes create friction against the brakedrum, slowing and stopping trailer.

TA231015

BRAKE SYSTEM – CONTINUED

AIR/HYDRAULIC (M103A1, M103A2, AND M105A1 CHASSIS)


HYDRAULIC WHEEL CYLINDER
HYDRAULIC MASTER CYLINDER
AIR LINE
AIR FILTER
GLADHAND
AIRHOSE
HYDRAULIC WHEEL CYLINDER
HYDRAULIC LINE
AIR CHAMBER
BRAKE-SHOES

Gladhand – The gladhand is the coupling point for the trailer brake system to the towing vehicle.

Airhose – The airhose connects the trailer brake system to the towing vehicle.

Air Line – The air line connects the trailer's airbrake system components together.

Air Filter – The air filter cleans the towing vehicle's air of moisture and foreign matter.

Air Chamber – The air chamber uses air pressure to operate the master cylinder.

Hydraulic Master Cylinder – The hydraulic master cylinder converts the mechanical motion of the brake air chamber to hydraulic pressure.

Hydraulic Lines – The hydraulic lines transfer hydraulic pressure from the hydraulic master cylinder to the wheel cylinders.

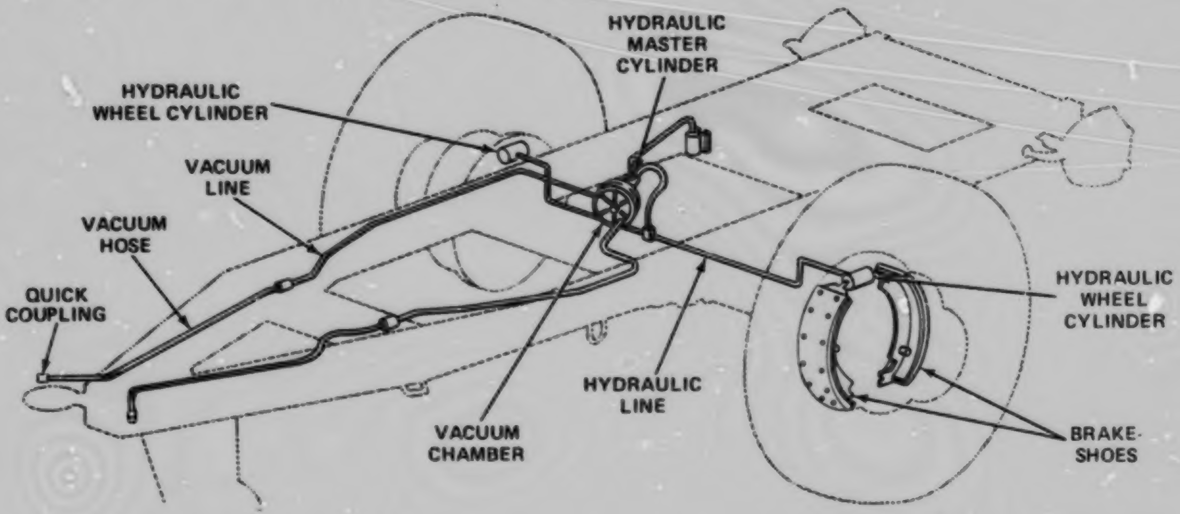
Hydraulic Wheel Cylinders – The hydraulic wheel cylinders convert system hydraulic pressure to mechanical motion and force the brake lining against the brakedrum.

Brakeshoes – The brakeshoes create friction against the brakedrums, slowing and stopping trailer.

TA231016

BRAKE SYSTEM – CONTINUED

VACUUM/HYDRAULIC (M103A3C CHASSIS WITH M105A2C CARGO BODY)


HYDRAULIC MASTER CYLINDER
HYDRAULIC WHEEL CYLINDER
VACUUM LINE
VACUUM HOSE
QUICK COUPLING
HYDRAULIC WHEEL CYLINDER
HYDRAULIC LINE
VACUUM CHAMBER
BRAKE-SHOES

Quick Couplings – The quick couplings are the coupling point for the trailer brake system to the towing vehicle.

Vacuum Hoses – The vacuum hoses connect the trailer brake system to the towing vehicle.

Vacuum Lines – The vacuum lines connect the trailer vacuum brake system components together.

Vacuum Chamber – The vacuum chamber uses vacuum to operate the master cylinder.

Hydraulic Master Cylinder – The hydraulic master cylinder converts the mechanical motion of the vacuum chamber to hydraulic pressure.

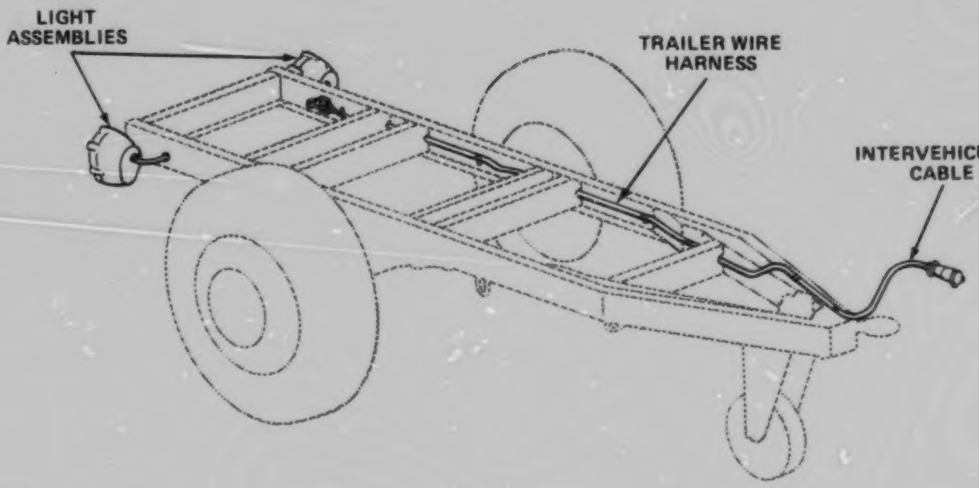
Hydraulic Lines – The hydraulic lines transfer hydraulic pressure from the hydraulic master cylinder to the wheel cylinders.

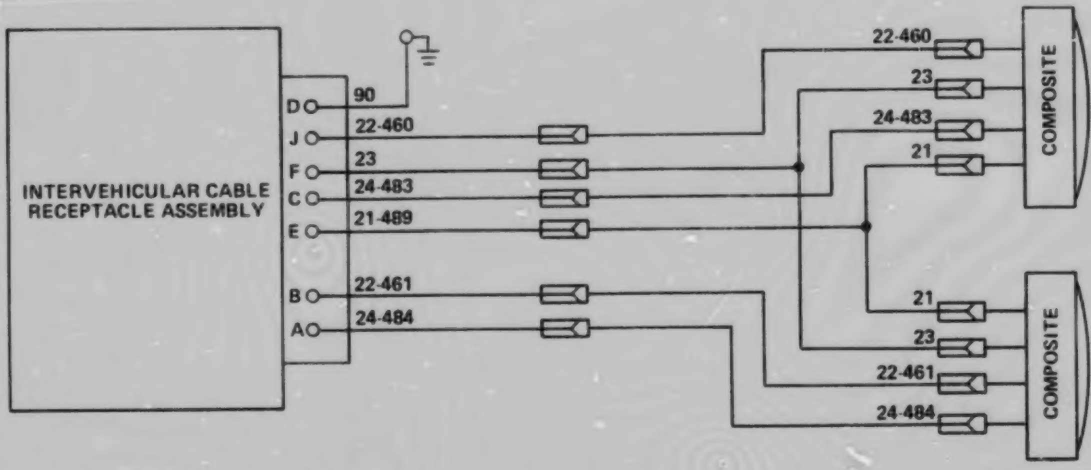
Hydraulic Wheel Cylinders – The hydraulic wheel cylinders convert system hydraulic pressure to mechanical motion and force the brake lining against the brakedrum.

Brakeshoes – The brakeshoes create friction against the brakedrums, slowing and stopping trailer.

TA231017

ELECTRICAL SYSTEM


LIGHT ASSEMBLIES
TRAILER WIRE HARNESS
INTERVEHICULAR CABLE


INTERVEHICULAR CABLE RECEPTACLE ASSEMBLY
D
J
F
C
E
B
A
90
22-460
23
24-483
21-489
22-461
24-484
22-460
23
24-483
21
COMPOSITE
21
23
22-461
24-484
COMPOSITE

Intervehicular Cable – When connected, the intervehicular cable carries electrical current from the towing vehicle to trailer wire harness.

Trailer Wire Harness – The trailer wire harness carries electrical current to trailer light assemblies.

Light Assemblies – The light assemblies provide stoplight, taillight, turn signal light, blackout light, and marker light.

TA231018

CHAPTER 2

OPERATING INSTRUCTIONS

OVERVIEW

This chapter shows and describes the trailer controls and contains operator/crew level preventive maintenance procedures.

Page

Section I. Description and Use of Operator's Controls 2-1
Section II. Operator/Crew Preventive Maintenance Checks and Services (PMCS) 2-6
Section III. Operation Under Usual Conditions 2-12
Section IV. Operation Under Unusual Conditions 2-19

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS

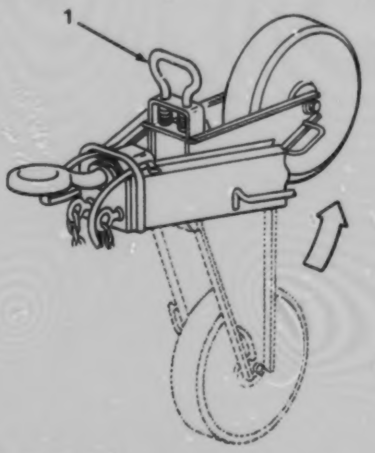
Page

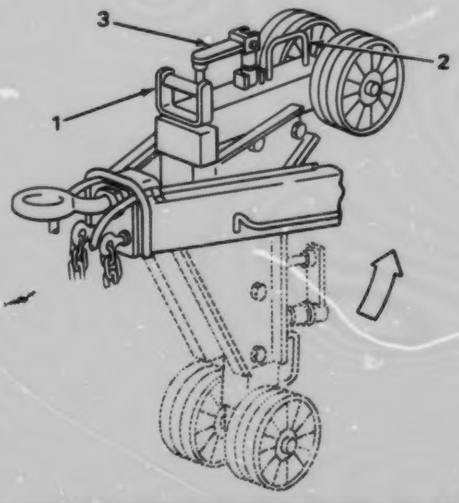
Cargo Body, M105 Series 2-6
Handbrake 2-2
Landing Leg 2-1
Shop Van Body, M448 2-3

Page

Trailer-to-Towing Vehicle Connectors 2-2
Water Tank Body, M107 Series 2-5

LANDING LEG

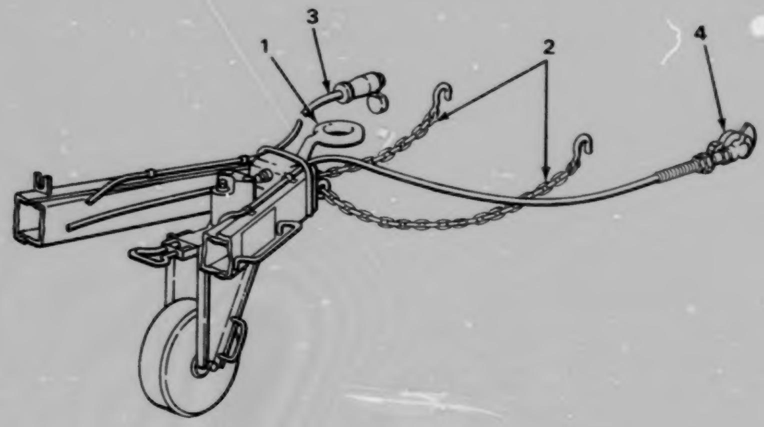




KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Release handle	Secures landing leg in up or down position.
2	Ground pad handle	Provides handle to lift landing leg to fold up.
3	Crank handle	Operates gearbox to raise or lower the leg.

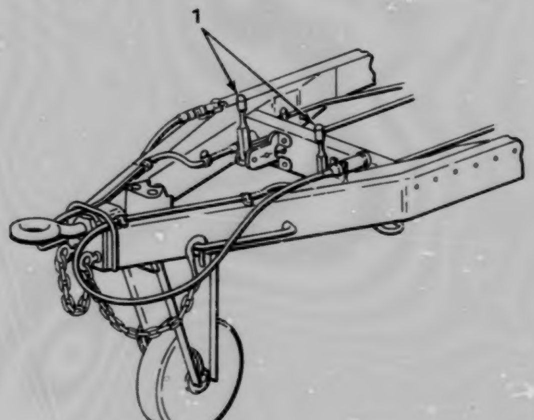
TA231019

TRAILER-TO-TOWING VEHICLE CONNECTORS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Lunette	Used to couple trailer to towing vehicle.
2	Safety chains	Hook to eyebolts on towing vehicle to prevent trailer from fully breaking away.
3	Intervehicular cable	Provides connection between towing vehicle and trailer electrical system.
4	Gladhand	Provides connection between towing vehicle and trailer service brake system.

HANDBRAKE

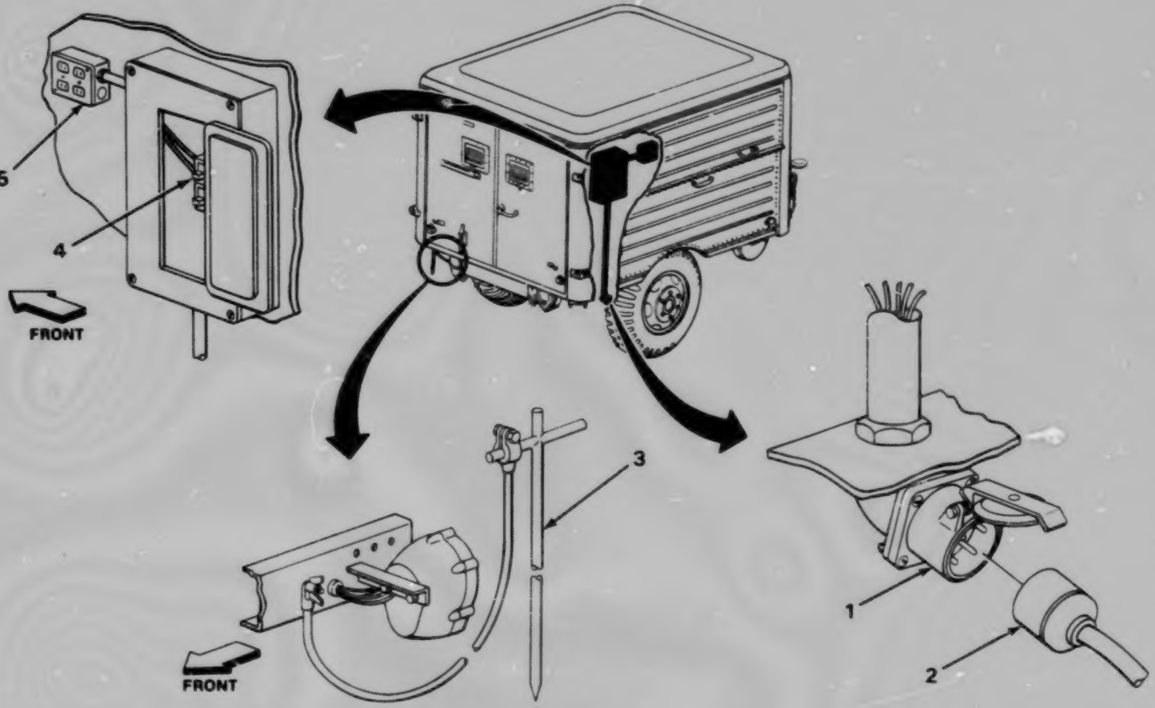


TA231020

HANDBRAKE – CONTINUED

KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Handbrake levers	To apply and release handbrakes.

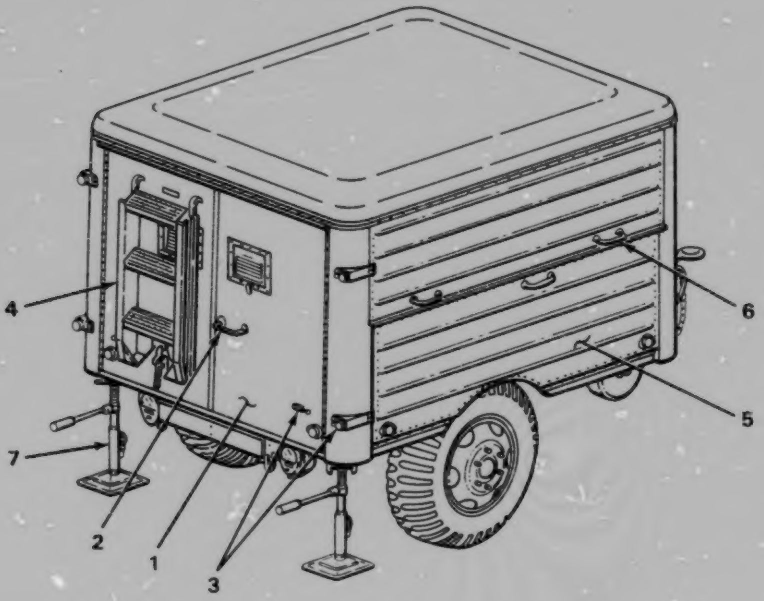
SHOP VAN BODY, M448



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Receptacle, 110-volt	To connect 110-volt cable to electrical system.
2	110-volt electrical cable	To connect 110-volt electrical system to auxiliary power source.
3	Ground rod	To ground trailer, protecting personnel from serious electric shock.
4	Circuit breaker	To protect electrical system and equipment in case of a power overload.
5	Outlet	To provide 110-volt power supply to the operator.

TA231021

SHOP VAN BODY, M448 – CONTINUED

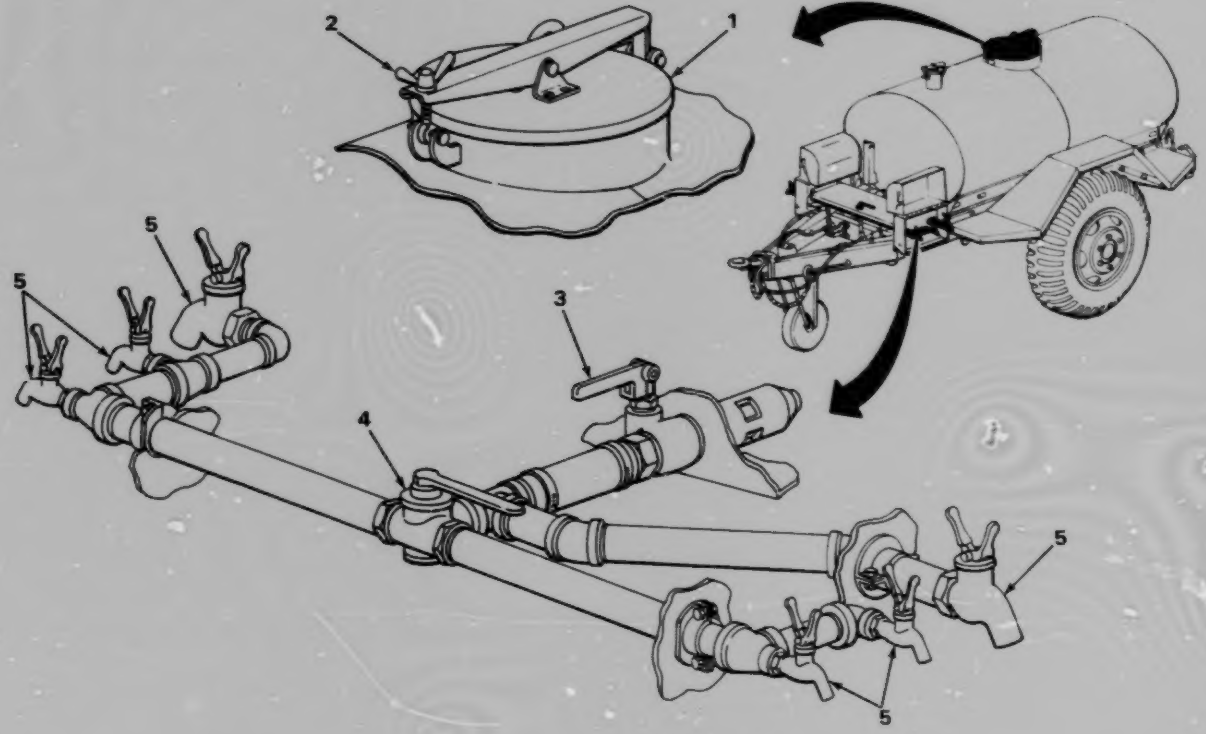


KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Rear doors	Provide access to shop van body.
2	Right-rear locking handle	Operates door latch mechanism to open and close right-rear door.
3	Rear door hold-open clip and retainer	To hold rear doors in open position.
4	Ladder	Stowed on outside of left-rear door, it provides access to shop van body.
5	Side doors	Swing down for use as a work area.
6	Side door latch handles	Lock side doors closed.
7	Leveling jack	To stabilize rear of trailer.

TA231022

20

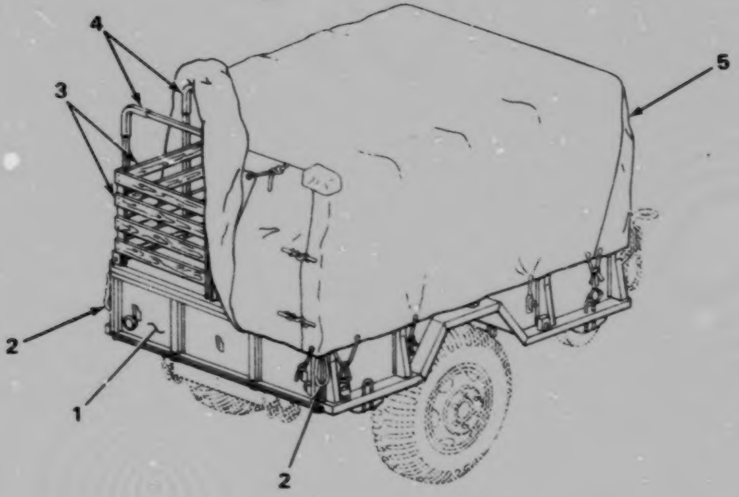
WATER TANK BODY, M107 SERIES



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Manhole cover	Provides access to tank body for filling, cleaning, and inspection.
2	Manhole cover latch	Secures manhole cover closed.
3	External valve	Opens tank for water distribution through piping.
4	Manifold valve	Directs water to faucets.
5	Faucets	Used to draw water as required.

TA231023

CARGO BODY, M105 SERIES



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Tailgate	Provides access to cargo body for loading.
2	Safety chains	Support tailgate when open and lock tailgate closed.
3	Stake racks	Vertically extend cargo body providing larger cargo area.
4	Roof bows	Provide support for stake racks and paulin.
5	Paulin	Provides shelter for cargo.

Section II. OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Page
General 2-6
Leakage Definitions 2-8
Operator/Crew Preventive Maintenance Checks and Services 2-9
PMCS Column Description 2-8
Special Instructions 2-7

GENERAL

This section contains PMCS for the M105 and M107 series trailers and the M448 shop van. The procedures list checks, services, and criteria to ensure that your trailer is prepared for operation.

TA231024

GENERAL – CONTINUED

Perform all checks and services at the specified intervals, keeping in mind the following guidelines:

Do before (B) PMCS before operating the trailer.

Do during (D) PMCS during operation of the trailer.

Do after (A) PMCS after operating the trailer.

SPECIAL INSTRUCTIONS

If your trailer does not operate properly, troubleshoot the affected system or component with the information on page 3-1. If you cannot correct the problem, notify your supervisor.

Always do PMCS in the same order so it will become a habit. Once you have had some practice, you will spot anything wrong right away.

If you find anything that looks wrong and you can't fix it, write it down on your DA Form 2404 and report it to organizational maintenance.

When you do PMCS, take along the tools you will need to make the checks and services. You will always need a rag or two.

WARNING

> Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors, and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (59°C). Serious injury, illness, or loss of life could result.

Keep Equipment Clean. Dirt, grease, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use drycleaning solvent P-D-680 on all metal surfaces. Use soap and water to clean rubber or plastic material and all painted surfaces.

Bolts, Nuts, and Screws. Check that they are not loose, missing, bent, or broken. Report loose or missing nuts, bolts, and screws to organizational maintenance.

Welds. Look for gaps where parts are welded together. Report bad welds to organizational maintenance.

Electric Wires or Connectors. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Report loose connections and faulty wiring to organizational maintenance.

Hoses, Lines, and Fittings. Look for wear, damage, or leaks. Make sure clamps and fittings are tight. Report any damage, leaks, or loose fittings and clamps to organizational maintenance.

LEAKAGE DEFINITIONS

Fluid leaks affect the operational status of the trailer. The following are definitions of the types/classes of leakage needed to determine the status of the trailer.

Class I – Seepage of fluid (indicated by wetness or discoloration) not enough to form drops.

Class II – Leakage of fluid great enough to form drops, but not enough to cause them to fall.

Class III – Leakage of fluid enough to form drops that fall.

CAUTION

> Equipment operation is allowable with minor leaks (class I and II). Consideration must be given to the fluid capacity of the trailer hydraulic system. When in doubt, notify your supervisor.
>
> When operating with class I or II leaks, check fluid levels more often than required in the PMCS. Hydraulic brake systems with leaks will stop working if fluid levels are not maintained.
>
> Class III leaks should be reported to your supervisor or organizational maintenance.

PMCS COLUMN DESCRIPTION

Item No. – The order that PMCS should be performed.

Interval – Tells when each check or service is to be performed.

Item To Be Inspected/Procedure – Lists the item to be inspected and the checks and services to be performed.

Equipment Is Not Ready/Available If – Has an entry only when your trailer should not be operated or accepted with that problem.

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES

B-BEFORE D-DURING A-AFTER

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A		
1.				WHEELS AND TIRES **WARNING** Improperly seated lockring could blow off. Never attempt to seat a lockring when tire is inflated. Serious injury or loss of life could result.	
	●		●	a. Check for proper mounting of wheel assembly lockring.	Not properly seated.
			●	b. Remove any glass, nails, or other debris imbedded in tread.	
	●			c. Check tires for obvious damage such as cuts, bruises, bulges, and flats.	Unserviceable.
	●			d. Check tire pressure according to table below. Tire size 11:00-20 9:00-20 Highway 45 psi 50 psi Cross country 25 psi 35 psi Sand 20 psi 25 psi	Tire will not hold air pressure.
2.				FRAME AND SUSPENSION	
	●			Check for cracks or broken welds.	Cracked or has a broken weld.
3.				LIGHTS AND REFLECTORS	
	●			a. Check for obvious damage or looseness of lights, lenses, and reflectors.	
	●	●		b. Check for proper operation.	Lights or reflectors are not serviceable.

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OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES – CONTINUED

B-BEFORE D-DURING A-AFTER

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A		
4.				BODY, CARGO, M105 SERIES	
	●			a. Check that stake racks and roof bows are properly installed and not broken or damaged.	
	●	●		b. Check to see that paulin is not torn or damaged and is properly tied down.	
5.				BODY, WATER TANK, M107 SERIES	
	●			a. Check that inside of tank is free of dirt and debris.	Inside of tank is dirty.
	●			b. Check manhole cover latch for proper operation.	
	●	●		c. Check that faucets, manifold valve, and external valve operate properly.	
		●		d. Check body, lines, valves, and faucets for leaks.	
6.				BODY, SHOP VAN, M448	
	●			a. Check rear and side doors for proper operation.	
	●			b. Check door latches for proper operation.	Doors cannot be properly latched.
	●			c. Check leveling jacks for freedom of movement and general condition.	
	●			d. Check 110-volt receptacle for proper mounting and general condition.	
	●	●		e. Check electrical outlets for proper mounting, operation, and general condition.	

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES – CONTINUED

B-BEFORE D-DURING A-AFTER

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A		
	●	●		f. Check circuit breaker, panel, and box for proper mounting, operation, and general condition.	Circuit breakers do not operate properly.
7.				LANDING LEG	
	●			Check for proper mounting, alinement, and general condition.	
8.				INTERVEHICULAR CABLE	
	●	●		Check for general condition of cable and plug.	
9.				BRAKE SYSTEM	
	●	●		a. Check for leakage of brake fluid from master cylinder, hydraulic brake lines, fittings, and brake fluid reservoir.	Brake system has a class III leak.
	●	●		b. Check air lines, hoses, fittings, filters, and brake air chamber for leaks and general conditions (page 4-43).	
	●			c. Check for proper operation of handbrake.	
		●		d. Check for proper operation of service brakes.	Brakes do not operate properly.
				WARNING Feel brakedrums and hubs cautiously. Brakedrums and hubs may be very hot. Failure to do so may cause injury to personnel.	
			●	e. Feel for overheated brakedrum or hub.	Brakedrum or hub is excessively hot.

Section III. OPERATION UNDER USUAL CONDITIONS

Page

After Use 2-18
Operation 2-14

Page

Preparation for Operation 2-12

PREPARATION FOR OPERATION

1. Perform the before (B) operator/crew preventive maintenance checks and services before continuing with the following procedures.

2. Review all towing vehicle operating instructions to prepare for coupling operation.

WARNING

All persons not involved in coupling operation must stand clear of towing vehicle and trailer to prevent serious injury.

CAUTION

Have a ground guide direct you during any backing operation of the towing vehicle. Damage to equipment could result if this safety measure is not followed.

3. Aline towing vehicle with trailer and slowly back towing vehicle until pintle (1) is adjacent to lunette (2).

4. Remove pintle lockpin (3), and open pintle (1).

5. Release trailer handbrake and, with an assistant, move trailer as required to engage lunette (2) in pintle (1).

6. Close pintle (1), and install pintle lockpin (3).

7. Attach safety chains (4) to towing vehicle eyebolts (5) by crossing them under lunette (2) to opposite side.

8. Connect intervehicular cable (6) to towing vehicle receptacle (7).

NOTE

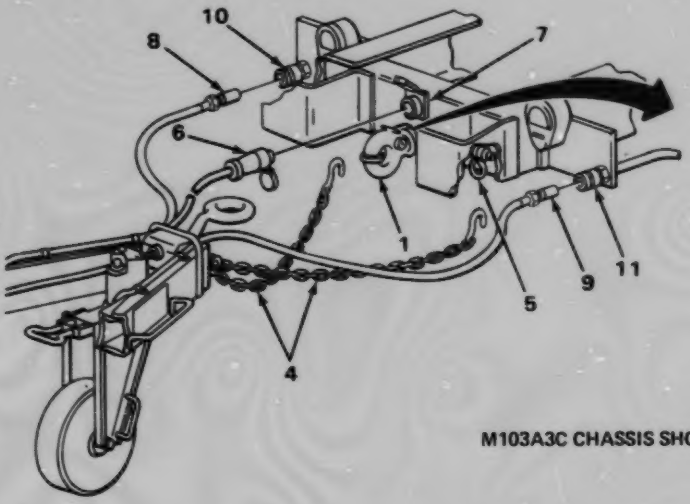
Step 9 pertains to the M103A3C chassis with the M105A2C cargo body. Proceed to step 10 for all models except the M103A3C chassis with the M105A2C cargo body.

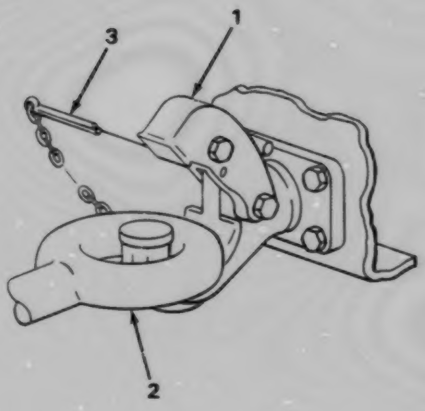
9. Connect service hose (8) and emergency hose (9) to towing vehicle gladhands (10 and 11). Proceed with step 11.

10. Connect service hose (8) to towing vehicle gladhand (10).

11. Turn on towing vehicle air valves to apply vacuum or pressure as required.

PREPARATION FOR OPERATION – CONTINUED



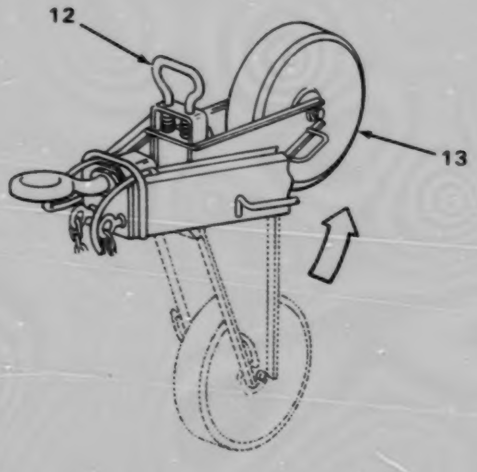


M103A3C CHASSIS SHOWN

12. With one hand, pull locking handle (12) out and, with the other hand, raise landing leg (13).

13. Release locking handle (12) while raising landing leg (13). Raise landing leg until locking handle (12) locks landing leg (13) in the up position.

14. Check that locking handle (12) is fully engaged.



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OPERATION

GENERAL

WARNING

> Before moving trailer, check to see that all loose equipment is properly stowed away and that nothing will be dragging on the ground. If trailer is loaded, check to see that load is properly secured. Injury to personnel or damage to equipment could result if this safety measure is not followed.

Perform all during (D) operator/crew preventive maintenance checks and services periodically throughout the entire operation of the trailer.

DRIVING

When driving the towing vehicle coupled to the trailer, the overall length of the unit must be kept in mind when turning corners or passing other vehicles on the highway. Backing also is affected because the unit is hinged at the coupling point.

TURNING

Refer to FM 21-305.

STOPPING

Refer to FM 21-305.

PARKING

When parking for extended periods, both the towing vehicle and trailer handbrakes should be applied. Do not use the service brakes for long-term parking. If the towing vehicle and trailer are parked on a hill, chock blocks should also be positioned to prevent accidental movement of the unit.

BACKING

Refer to FM 21-305.

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OPERATION – CONTINUED

LOADING M105 SERIES CARGO TRAILER

The load capacity of the trailer is 3000 pounds on highway or cross-country terrain. All loads must be evenly distributed over the trailer floor and load capacity should never be exceeded. See Equipment Data (page 1-10).

The M105 series cargo trailer may be loaded with a forklift truck if the rear stake rack is removed and the tailgate is opened.

FILLING M107 SERIES WATER TANK TRAILER

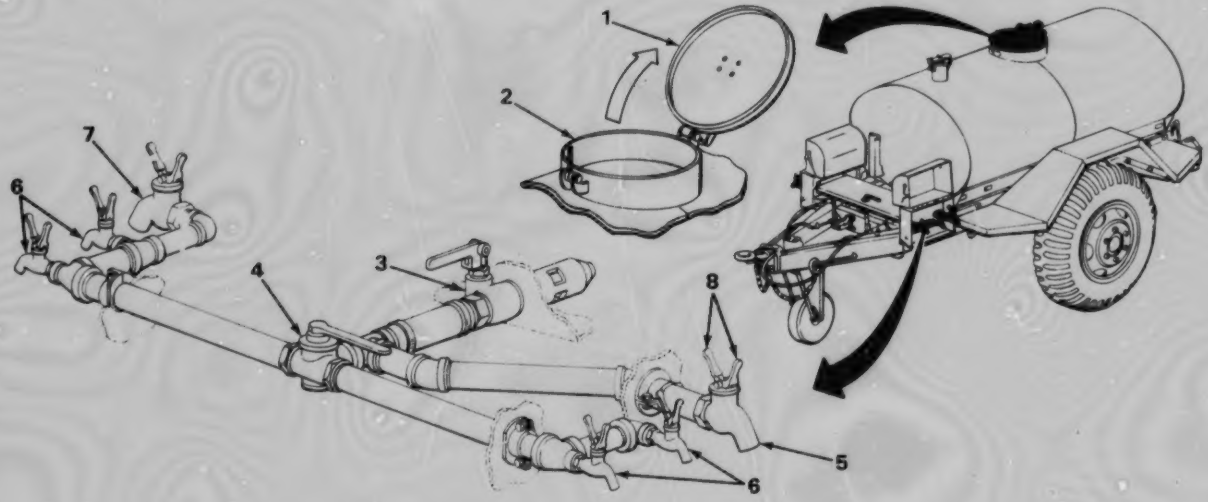
WARNING

> The highest sanitary practices must be exercised in handling water for drinking purposes. Serious illness could result from impure drinking water.

1. Position water tank trailer next to water supply on solid level ground.
2. Open manhole cover (1).
3. All water tank trailers may be filled from an overhead, free-flowing source, or by a pressure pump through manhole opening (2).

DRAWING WATER, M107 SERIES WATER TANK TRAILER

1. Open external valve (3), permitting water to flow from water tank to manifold valve (4) and faucet (5).
2. Open manifold valve (4), permitting water to flow to faucets (6 and 7).
3. Squeeze handles (8) on top of faucets (5, 6, and 7) as required, permitting water to flow.



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OPERATION – CONTINUED

CONNECTING 110-VOLT ELECTRICAL POWER, M448 SHOP VAN TRAILER

1. Park shop van trailer near auxiliary power source. See Parking (page 2-14).
2. Remove leveling jacks (1) from stowed position.
3. Position one leveling jack (1) under each rear corner of shop van trailer.
4. Remove lockpin (2) and extend leveling jack (1). Insert lockpin (2) to hold leveling jack (1) in extended position.

CAUTION

Leveling jack must not be used to raise rear of trailer. It is only to provide support when personnel enter and exit trailer.

5. Adjust leveling jacks (1) equally to support rear of trailer.
6. Drive ground rod (3) into ground.
7. Connect auxiliary power source 110-volt electrical cable (4) to receptacle (5).
8. Turn electrical power on with circuit breaker (6).
9. Plug electrical equipment into outlets (7) as required for use.

DISCONNECTING 110-VOLT ELECTRICAL POWER, M448 SHOP VAN TRAILER

1. Turn off all electrical equipment and unplug from outlets (7).
2. Turn off electrical power with circuit breaker (6).
3. Disconnect auxiliary power source 110-volt electrical cable (4) from receptacle (5).
4. Remove ground rod (3) from ground and stow.
5. Remove lockpin (2) and lower leveling jacks (1).
6. Insert lockpin (2) and stow leveling jacks (1) in shop van trailer.

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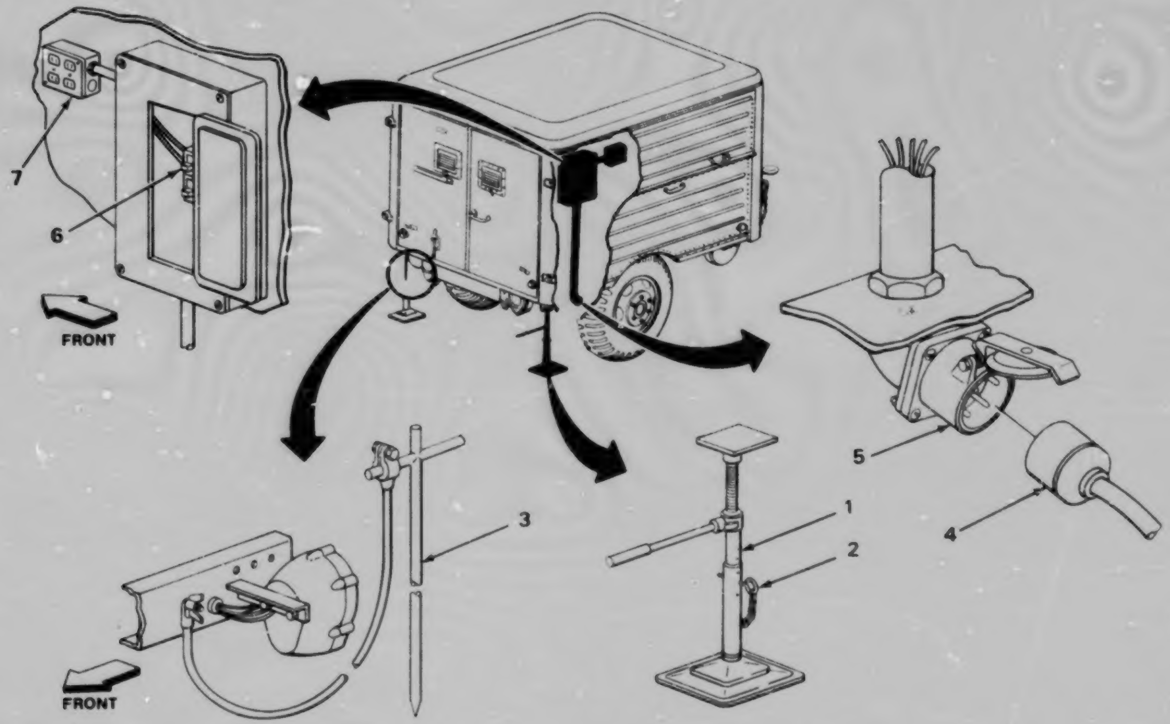
OPERATION – CONTINUED



AFTER USE

1. Review all towing vehicle operating instructions for uncoupling operation.

2. Select an area for uncoupling trailer providing level solid ground and protection for the trailer if weather conditions should change. See Operation Under Unusual Conditions (page 2-19).

WARNING

All persons not involved in uncoupling operation must stand clear of towing vehicle and trailer to prevent serious injury.

3. With one hand, support landing leg (1) and, with the other hand, pull out locking handle (2). Lower landing leg (1).

4. With landing leg (1) fully lowered, make sure locking handle (2) is fully engaged.

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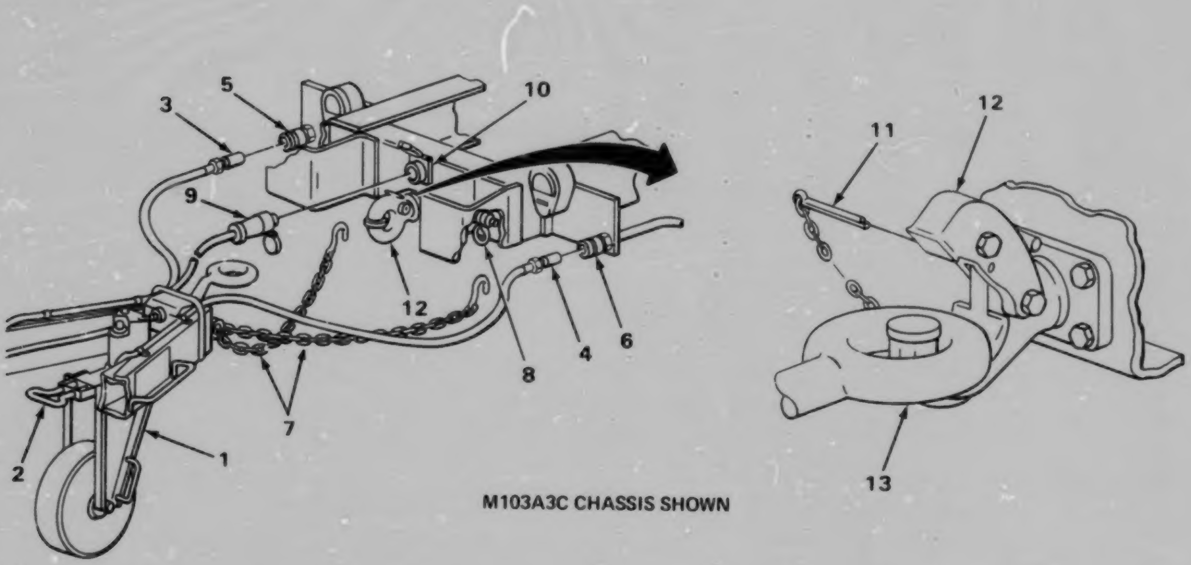
AFTER USE – CONTINUED

NOTE

Step 5 pertains to the M105A3C chassis with the M105A2C cargo body. Omit this step for all other models.

5. Disconnect service hose (3) and emergency hose (4) from towing vehicle gladhands (5 and 6) and stow on trailer. Proceed with step 7.
6. Disconnect service hose (3) from towing vehicle gladhand (5) and stow on trailer.
7. Disconnect safety chains (7) from towing vehicle eyebolts (8) and stow on trailer.
8. Disconnect intervehicular cable (9) from towing vehicle receptacle (10) and stow on trailer.
9. Remove pintle lockpin (11) and open pintle (12).
10. With an assistant, move trailer as required to disengage lunette (13) from pintle (12) and apply handbrakes.
11. Move towing vehicle a safe distance away from trailer.
12. Perform all after (A) operation operator/crew preventive maintenance checks and services.



M103A3C CHASSIS SHOWN

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Section IV. OPERATION UNDER UNUSUAL CONDITIONS

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Operation in Extreme Cold	2-19
Operation in Extreme Heat	2-19
Operation in Mud	2-20
Operation in Saltwater Areas	2-20
Operation in Sandy or Dusty Areas	2-20
Operation in Snow	2-20

OPERATION IN EXTREME COLD

1. See lubrication chart (page 4-2) for proper lubricants to be used during extreme cold weather.

2. Care must be taken when handling cables in cold weather. Extreme cold weather can cause insulation material on electrical wire to crack causing short circuits. Construction material can become hard, brittle, and easily damaged or broken.

NOTE

Special care must be taken when operting the trailers in cold weather. Refer to FM 9-207 for information about the water trailer and FM 21-305 for special instructions for all the trailers.

3. Water trailers equipped with an aluminum water tank body may use the M67 immersion heater to prevent contents from freezing. Refer to TM 5-4540-202-12&P for installation, operation, and maintenance of the M67 immersion heater.

4. On the M107 series water tank trailer, drain water from piping, valves, and faucets during periods of inactivity by closing external valve, opening manifold valve, and all faucets.

5. In areas where temperatures will drop below 32°F (0°C), the manhole cover should be closed tightly.

6. When parking for long or short periods at temperatures below 0°F (-17.7°C), park in a sheltered area out of the wind and clean off any buildup of ice and snow. Tires and landing gear could freeze to the ground. During periods of extreme cold weather, place a footing of planks or brush under the tires and landing gear. Tires must also be kept properly inflated. Underinflated tires will freeze, resulting in flat spots.

OPERATION IN EXTREME HEAT

1. See the lubrication chart (page 4-2) for proper lubricants to use in extreme heat.

2. Do not park the trailer in sunlight for long periods of time. Heat and sunlight shorten tire life. Shelter or cover the trailer with canvas, if available.

OPERATION IN SANDY OR DUSTY AREAS

1. Clean, inspect, and lubricate more often in sandy or dusty areas.
2. Reduce tire pressure to 25 psi (172 kPa) for operation in soft sand. Reduce tire pressure to 35 psi (241 kPa) for cross-country terrain. Tire pressure must be returned to 50 psi (345 kPa) when operation resumes on hard-surface roads if tactical situation permits.
3. Precaution must be taken to prevent water for drinking purposes from becoming contaminated with dust and sand.

OPERATION IN SALTWATER AREAS

1. Clean, inspect, and lubricate more often in saltwater areas.
2. See Operation in Sandy or Dusty Areas (page 2-19) and Fording (page 2-20).

OPERATION IN MUD

Immediately after operation in mud, thoroughly clean, inspect, and lubricate trailer (page 4-2) if the tactical situation permits. Repack wheel bearings (page 4-2) if required.

FORDING

1. Instructions pertaining to fording of the towing vehicle are also applicable to the trailer. Refer to towing vehicle operating instructions.
2. Refer to TM 9-238 for deepwater fording information.

OPERATION IN SNOW

1. Refer to FM 21-305 for special instructions on driving hazards in snow.
2. Reduce tire pressure to 25 psi (172 kPa).

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CHAPTER 3

OPERATOR MAINTENANCE

OVERVIEW

The chapter contains the lubrication, troubleshooting, and maintenance instructions and procedures authorized at operator level.

		Page
Section I.	Lubrication Instructions	3-1
Section II.	Operator Troubleshooting Procedures	3-1
Section III.	Operator Maintenance Procedures	3-4
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Section I. LUBRICATION INSTRUCTIONS

Lubrication under usual and unusual conditions and the trailer lubrication chart are contained in Organizational Maintenance, chapter 4.

Section II. OPERATOR TROUBLESHOOTING PROCEDURES

	Page		Page
Explanation of Columns	3-1	Operator Troubleshooting	3-2
General	3-1	Symptom Index	3-1

GENERAL

This section lists the common malfunctions that you may find during the operation of your trailer and its components. Perform the test, inspections, and corrective maintenance in the order they are listed.

This manual cannot list all malfunctions that may occur or all tests, inspections, and corrective actions. If a malfunction is not listed, or is not corrected by the corrective actions listed, notify your supervisor.

EXPLANATION OF COLUMNS

Malfunction. Visual or operational indication that something is wrong with the trailer.

Test or Inspection. Procedure to isolate the problem in a component or system.

Corrective Action. Procedure to correct the problem.

SYMPTOM INDEX

This symptom index is provided as a guide to the troubleshooting procedure that will help you solve the problem you are having.

SYMPTOM INDEX – CONTINUED

Page

BRAKES

Brakes do not engage 3-3
Brakes will not release 3-3

ELECTRICAL SYSTEM

All lamps fail to light 3-2
One or more (but not all) lamps fail to light 3-2

110-VOLT ELECTRICAL SYSTEM (M448 SHOP VAN ONLY)

Circuit breaker trips 3-3
No power 3-3

OPERATOR TROUBLESHOOTING

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LAMPS FAIL TO LIGHT.

Step 1. Ensure that lights are turned on.

Turn on lights. Refer to towing vehicle TM.

Step 2. Check intervehicular cable connector for proper connection.

Disconnect and reconnect intervehicular cable.

Step 3. Check towing vehicle circuit breaker/fuse.

Refer to towing vehicle technical manual for maintenance instructions.

2. ONE OR MORE (BUT NOT ALL) LAMPS FAIL TO LIGHT.

Check for loose plug connectors at affected light assemblies.

Reconnect loose connector.

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OPERATOR TROUBLESHOOTING – CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

110-VOLT ELECTRICAL SYSTEM (M448 SHOP VAN ONLY)

3. NO POWER.

Step 1. Check to see if auxiliary power cable is properly connected.

Disconnect and reconnect auxiliary power cable.

Step 2. Check to see if circuit breakers are not tripped.

Switch circuit breaker off, then back on.

4. CIRCUIT BREAKER TRIPS.

Check for power overload.

Unplug excess power equipment.

BRAKES

5. BRAKES DO NOT ENGAGE.

Step 1. Check for closed air valve on towing vehicle.

Open air valve.

Step 2. Check for leaking brake fluid.

Open air valves.

If brake fluid is leaking, notify organizational maintenance.

6. BRAKES WILL NOT RELEASE.

NOTE

The M103A3C chassis with the M105A2C cargo body has two airhoses connected to the towing vehicle. All other models have only one airhose connected to the towing vehicle.

Step 1. Check for proper connection of airhoses.

Disconnect and reconnect airhose.

Step 2. Check to see if air valves on towing vehicle are open.

Open air valves.

Section III. OPERATOR MAINTENANCE PROCEDURES

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Operational Air Leak Check	3-6
Handbrake Lever, Front Mounted (All Except M107A1)	3-7
Wheel and Tire	3-4

WHEEL AND TIRE

This task covers:

- a. Removal (page 3-4)
- b. Installation (page 3-5)

INITIAL SETUP

Tools

Jack, hand, hydraulic, 5-ton
Wrench, wheel lug

Equipment Condition

Handbrake applied.

	LOCATION	ITEM	ACTION REMARKS

REMOVAL

NOTE

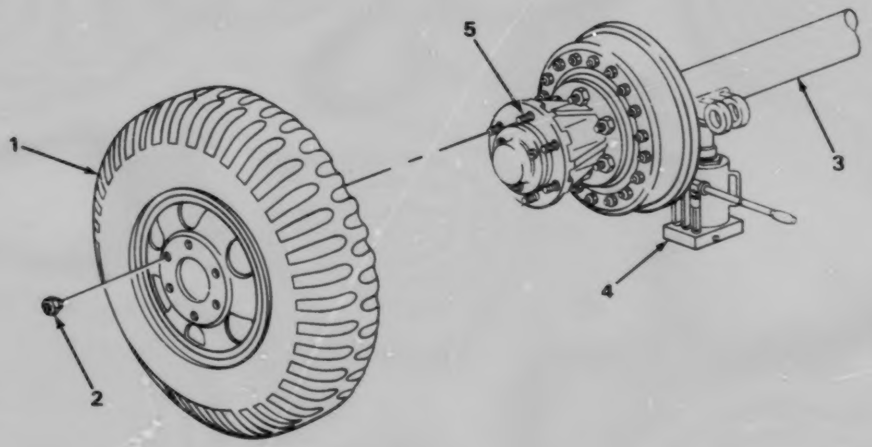
Hub studs and wheel nuts are marked R on right wheel and L on left wheel. Nuts must be turned in opposite direction to normal forward rotation of wheel to be loosened or removed.

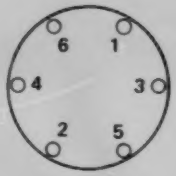
	LOCATION	ITEM	ACTION REMARKS
1.	Wheel and tire (1)	Six nuts (2)	Using wheel lug wrench, loosen. **Do not remove.**
2.	Axle (3)	5-ton hydraulic hand jack (4)	a. Position 5-ton hydraulic hand jack under axle near wheel and tire to be removed. b. Using 5-ton hydraulic hand jack, raise axle so wheel and tire are about 1 inch off the ground.
3.	Wheel and tire (1)	Six nuts (2)	Using wheel lug wrench, take off.
4.	Wheel studs (5)	Wheel and tire (1)	Pull off.

WHEEL AND TIRE – CONTINUED

INSTALLATION

	LOCATION	ITEM	ACTION REMARKS
5.	Wheel studs (5)	Wheel and tire (1)	Position on studs.
6.	Wheel and tire (1)	Six nuts (2)	Using wheel lug wrench, screw on.
7.	Axle (3)	5-ton hydraulic hand jack (4)	Lower.
8.	Wheel and tire (1)	Six nuts (2)	Using wheel lug wrench, tighten. **Have organizational maintenance torque nuts to 450 – 500 ft lb (610.2 – 678 N·m) as soon as possible.**





TIGHTENING SEQUENCE

TASK ENDS HERE

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OPERATIONAL AIR LEAK CHECK

This task covers:

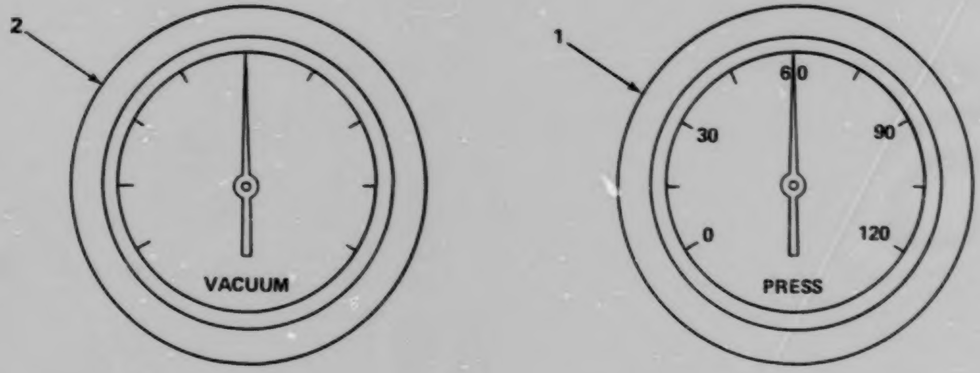
Testing (page 3-6)

INITIAL SETUP

Equipment Condition

Trailer properly connected to towing vehicle (page 2-12).

LOCATION	ITEM	ACTION REMARKS
TESTING		
1. Towing vehicle	Air pressure gage (1) or vacuum gage (2)	Start towing vehicle and watch for normal pressure or vacuum reading.
2.	Service brakes	Push brake pedal down to applied position.
3.	Engine	Shut down.
4.	Air pressure gage (1) or vacuum gage (2)	Watch for pressure drop or vacuum drop of no more than 10 percent of normal reading within 2 minutes. **Notify organizational maintenance if pressure or vacuum drops more than 10 percent within 2 minutes.**



TASK ENDS HERE

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HANDBRAKE LEVER, FRONT MOUNTED (ALL EXCEPT M107A1)

This task covers:

Adjustment (page 3-7)

	LOCATION	ITEM	ACTION REMARKS

ADJUSTMENT

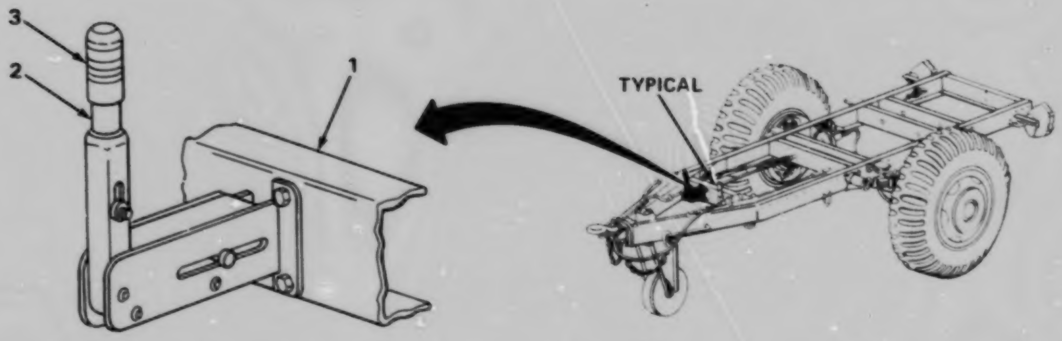
WARNING

If trailer is not coupled to a towing vehicle, be sure that the wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury or damage to equipment.

NOTE

Procedure is for one handbrake. Repeat procedure for opposite side.

	LOCATION	ITEM	ACTION REMARKS
1.	Drawbar legs (1)	Handbrake lever (2)	Move to release position as shown.
2.	Handbrake lever (2)	Adjustment knob (3)	Adjust handbrake by turning clockwise to tighten or counterclockwise to loosen. **Additional force will be required to move handbrake lever beyond two-thirds distance of travel towards applied position when proper adjustment is obtained.**



TASK ENDS HERE

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Section IV. CLEANING INSTRUCTIONS

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Water Tank Interior Cleaning and Refinishing	3-8

WATER TANK EXTERIOR CLEANING AND REFINISHING

NOTE

If components of water tank trailer require removal for exterior cleaning refer to the following:

Fenders and extensions (page 4-152) and water tank assembly (pages 5-10).

Using a long-handled scrub brush, throughly clean exterior of water tank, fenders, fender extensions and trailer frame assembly.

WATER TANK INTERIOR CLEANING AND REFINISHING

A thorough cleaning of the water tank interior should be conducted annually or at any time the medical department determines the interior of the water tank to be contaminated. The water tank interior cleaning procedure should also be performed before the water tank is placed in service.

WARNING

Follow manufacturer's instructions for use of liquid dishwashing compound. Avoid contact with eyes and prolonged contact with skin. Do not inhale fumes or swallow. Serious injury or illness could result from improper use.

1. Prepare a soap solution of liquid dishwashing compound (item 10, appendix E) using 1 gallon (3.8 liters) per 400 gallons (1514 liters) of warm water, 120°F (49°C).
2. Using a long-handled scrub brush, thoroughly wash the inside of the water tank. Allow to drain.
3. Using clear, warm water, 120°F (49°C), thoroughly rinse the water tank to completely remove the soap solution.
4. Prepare a laundry bleach solution of liquid laundry bleach (item 2, appendix E) using 4 gallons (15.1 liters) per 400 gallons (1514 liters) of warm water, 120°F (49°C).
5. Allow solution to stand in water tank for a period of 8 hours, then allow to drain.
6. Using clear, warm water, 120°F (49°C), thoroughly rinse the water tank to completely remove the laundry bleach solution.

NOTE

For abrasive cleaning and refinishing inside of water tank, refer to direct support maintenance.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

OVERVIEW

This chapter contains all maintenance procedures authorized to be performed by organizational maintenance. Included are lubrication instructions, service upon receipt, preventive maintenance checks and services, troubleshooting, and maintenance procedures.

Page

Section I. Lubrication Instructions 4-1
Section II. Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment 4-5
Section III. Service Upon Receipt of Materiel 4-5
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Section I. LUBRICATION INSTRUCTIONS

Page

Lubrication Chart 4-2

Page

Lubrication Instructions 4-1

LUBRICATION INSTRUCTIONS

GENERAL

Keep all lubricants in a closed container and store in a clean, dry place away from extreme heat. Keep container covers clean and allow no dust, dirt, or other foreign material to mix with lubricants. Keep all lubrication equipment clean and ready for use.

LUBRICATION INSTRUCTIONS – CONTINUED

CLEANING

Keep all external parts of equipment not requiring lubrication free of lubricants. Before lubricating equipment, wipe all lubrication points free of dirt and grease. After servicing lubrication points, wipe off excess lubricants to prevent accumulation of foreign matter.

LUBRICATION INTERVAL

Service lubrication points at the proper intervals as specified in the Lubrication Chart (page 4-3). The intervals specified are based on vehicle operation under usual conditions. Modification of the recommended intervals may be required for vehicle operation under unusual conditions.

LUBRICATION CHART

See the lubrication chart on the following page for lubrication under normal conditions. Refer to FM 9-207 for instructions on lubrication in weather below 0°F (-18°C). Refer to TM 9-238 for lubrication before and after fording. Clean and inspect all lubrication points after operating in mud, dust, sand, or other unusual conditions. Lubricate trailer in accordance with the lubrication chart.

LUBRICATION CHART

CHASSIS TRAILER: 1 1/2-TON, 2-WHEEL, M103 SERIES TRAILER, CARGO: 1 1/2-TON, 2-WHEEL, M105 SERIES TRAILER, TANK, WATER: 1 1/2-TON, 2-WHEEL, 400-GALLON, M107 SERIES TRAILER, VAN, SHOP: FOLDING SIDES, 1 1/2-TON, 2-WHEEL, M448

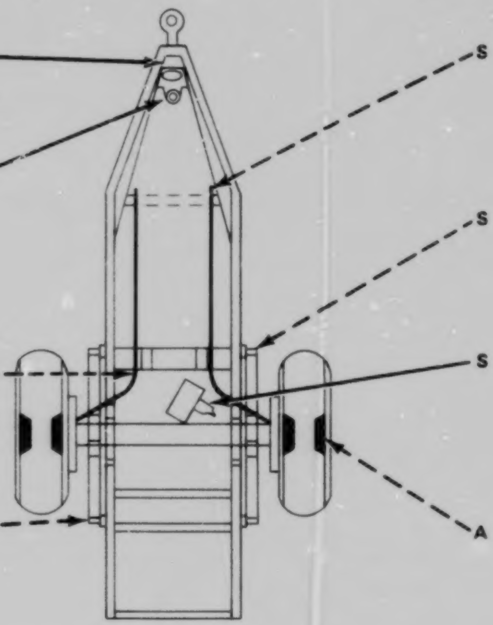
Hard time intervals and related man-hour times are based on normal operation. The man-hour time specified is the time you need to do all services prescribed for a particular interval. Decrease the intervals if your lubricants are contaminated, or if you are operating equipment under adverse conditions, including longer-then-usual operating hours. The intervals may be extended during periods of low activity. If extended, adequate preservation precautions must be taken.

Dotted leader lines indicate lubrication is required on both sides of the equipment.

WARNING

Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (58°C). Serious illness, injury, or loss of life could result.

Clean all fittings and area around lubrication points with drycleaning solvent P-D-680 or equivalent before lubricating equipment.



	LUBRICANT	INTERVAL
Caster Mounting Brackets	GAA	S
Caster Wheel Axle	GAA	S
Handbrake Cable (Except M103A3)	GAA	S
Spring Shackle Pins (2 fittings)	GAA	S

INTERVAL	LUBRICANT	
S	OE/ HDO	Handbrake (See Note 1.)
S	GAA	Spring Shackle Pin
S	BFS	Brake Master Cylinder (See Note 4.)
A	GAA	Wheel Bearings (See Note 3.)

TOTAL MAN-HOURS*

INTERVALS	MAN-HOURS
A	1.5
S	0.7

*Total man-hours time specified is the time you need to do all services prescribed for a particular interval.

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—KEY—

LUBRICANTS		EXPECTED TEMPERATURES				INTERVALS
		ABOVE +15°F (ABOVE -9°C)	+40°F TO -15°F (+4°C TO -26°C)	+40°F TO -65°F (+4°C TO -54°C)		
OE/HDO	Lubricating oil, internal combustion engine, tactical service	OE/HDO 30	OE/HDO 10		For arctic operations, refer to FM 9-207.	A — Annually S — Semiannually
OEA	Lubricating oil, internal combustion, arctic (See Note 1.)			OEA		
	Oilcan points (See Note 2.)					
BFS	Brake fluid silicone, automotive Master cylinder (See Note 4.)	All Temperatures				
GAA	Grease, automotive and artillery	All Temperatures				

NOTES:

1. FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW -15°F (-26°C). Remove lubricants prescribed in the key for temperatures above -15°F (-26°C). Relubricate with lubricants specified in the key for temperatures below -15°F (-26°C). If OEA lubricant is required to meet the temperature changes prescribed in the key, OEA lubricant is to be used in place of OE/HDO 10 lubricant for all temperature ranges where OE/HDO 10 lubricant is specified in the key.

2. OILCAN POINTS. Every 6 months, lubricate linkage pins, clevises, and all exposed adjusting threads with OE/HDO.

3. WHEEL BEARINGS. Every 6 months, remove, clean, and repack with GAA. Refer to TM 9-214, Inspection, Care, and Maintenance of Antifriction Bearings.

4. MASTER CYLINDER FLUID LEVEL. Every 4 months, check fluid level. Add fluid to within 1/2 inch from top of cylinder.

5. LUBRICANTS. The following is a list of lubricants with military symbols and applicable specification numbers:

OE/HDO	MIL-L-2104C
GAA	MIL-G-10924C
OEA	MIL-L-46167
BFS	MIL-B-46176

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Section II. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

	Page		Page
Common Tools and Equipment	4-5	Special Tools, TMDE, and Support Equipment	4-5
Repair Parts	4-5		

COMMON TOOLS AND EQUIPMENT

Refer to the Modified Table of Organization and Equipment (MTOE) for authorized common tools and equipment applicable to your unit.

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

No special tools, TMDE, or support equipment are required to maintain the trailer.

REPAIR PARTS

Repair parts are listed and illustrated in appendix F of this manual.

Section III. SERVICE UPON RECEIPT OF MATERIEL

	Page		Page
Preliminary Servicing and Adjustment of Equipment	4-7	Service Upon Receipt of Materiel	4-5

SERVICE UPON RECEIPT OF MATERIEL

This task covers:

a. Unpacking (page 4-6)
b. Checking unpacked equipment (page 4-6)

INITIAL SETUP

Tools	Materials/Parts
Cutter, strap	Rags (item 9, appendix E)
Puller, nail	Solvent, drycleaning (item 11, appendix E)

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SERVICE UPON RECEIPT OF MATERIEL – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
UNPACKING			
1.	Trailer	DD Form 1397	Read and follow all instructions.
2.		Metal straps, plywood, tape, seals, and wrappings	Using strap cutter and nail puller, remove all straps, plywood, tape, seals, and wrappings.

CHECKING UNPACKED EQUIPMENT

WARNING

Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (59°C). Serious injury, illness, or loss of life could result.

3.	Trailer	Coated exterior parts	Using drycleaning solvent and rags, remove rust preventive compound.
4.		Trailer	a. Inspect for any damage incurred during shipment. b. If the equipment has been damaged, report the damage. c. Check for modification of equipment.
5.		Equipment packing list	a. Check equipment against packing list to see if shipment is complete. b. Report all discrepancies in accordance with instructions in DA PAM 738-750.

TASK ENDS HERE

PRELIMINARY SERVICING AND ADJUSTMENT OF EQUIPMENT

Perform the operator and organizational preventive maintenance checks and services (PMCS) as described on pages 2-6 and 4-7.

Lubricate all points as shown in the Lubrication Chart (page 4-2), regardless of interval.

Schedule the next preventive maintenance checks and services on DD Form 314, Preventive Maintenance Schedule and Record.

Report all problems on DD Form 2407 if the deficiencies appear to involve unsatisfactory design.

Perform a break-in road test of 25 mi (40.2 km) at a maximum speed of 50 mph (80.5 km/h).

Section IV. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

	Page
General	4-7
Organizational Preventive Maintenance Checks and Services	4-9
PMCS Column Description	4-8
Special Instructions	4-7

GENERAL

The trailer must be inspected systematically to ensure that it is ready for operation at all times. Inspection will allow defects to be discovered and corrected before they result in serious damage or failure. This section contains a tabulated list of preventive maintenance checks and services to be performed by organizational maintenance personnel. All deficiencies and corrective actions will be recorded on DA Form 2404.

Do your (Q) PMCS once every 3 months.

Do your (S) PMCS once every 6 months.

Do your (A) PMCS once every year.

SPECIAL INSTRUCTIONS

If something doesn't work, troubleshoot it with the instructions in this manual or notify your supervisor.

Always do your preventive maintenance in the same order so it gets to be a habit. Once you have had practice, you will spot anything wrong in a hurry.

If anything is wrong and you can't fix it, write it down on your DA Form 2404 and notify your supervisor.

When you do your preventive maintenance, take along the tools you need to make all the checks. You always need a rag or two.

SPECIAL INSTRUCTIONS – CONTINUED

WARNING

Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (59°C). Serious injury, illness, or loss of life could result.

NOTE

When you are doing any PMCS or routine checks, keep in mind the warnings and cautions.

Routine checks, like those listed below, are not listed in the PMCS checks.

Keep Equipment Clean. Dirt, grease, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use drycleaning solvent P-D-680 to clean metal surfaces. Use soap and water when cleaning rubber or plastic material.

Bolts, Nuts, and Screws. Check that they are not loose, missing, bent, or broken. Tighten any that you find loose.

Welds. Look for gaps where parts are welded together. If you find a bad weld, report it to your supervisor.

Electric Wires and Connectors. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Make repairs or replace as required.

Hoses and Lines. Look for wear, damage, and leaks. Make sure clamps and fittings are tight. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, either correct it or report it to your supervisor. (Refer to Maintenance Allocation Chart, appendix B.)

PMCS COLUMN DESCRIPTION

Item No. – The order that PMCS should be performed.

Interval – Tells when each task is to be performed.

Item to be Inspected – Lists the checks to be performed.

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ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Q-QUARTERLY S-SEMIANNUALLY A-ANNUALLY

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED
	Q	S	A	
				NOTE Perform operator/crew PMCS prior to or in conjunction with organizational PMCS.
1.				FRAME
			●	Look for cracks, bent members, or broken welds.
2.				BRAKE MASTER CYLINDER
	●			Check fluid level. Fill to within 1/2 inch from top. See Lubrication Chart (page 4-2).
3.				WHEEL BEARINGS
			●	a. Remove wheel hubs and bearings (page 4-102).
			●	b. Clean, inspect, and pack with grease (item 5, appendix E). Refer to TM 9-214, Inspection, Care, and Maintenance of Antifriction Bearings.
4.				BRAKE ASSEMBLIES
		●		a. Clean, inspect, and repair or replace internal brake parts as required (page 4-56 or 4-62).
		●		b. Adjust brakeshoes (page 4-56 or 4-62).

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES – CONTINUED

Q-QUARTERLY S-SEMIANNUALLY A-ANNUALLY

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED
	Q	S	A	
5.				WHEEL AND TIRES
	●			a. Check tires for wear and possible damage, and check tread depth. Refer to TM 9-2610-200-24.
	●			b. Using a torque wrench, torque wheel nuts to 450 – 500 ft lb (610.2 – 678 N•m).
6.				SUSPENSION
		●		a. Check suspension for bent or cracked leaves, loose mounting, or worn components.
		●		b. Check shock absorbers for damage or leaks.
7.				LANDING GEAR
	●			a. Look for bent or broken components.
	●			b. Check for proper operation of lock handle.
8.				HANDBRAKE
		●		Adjust as required (page 4-51).

Section V. ORGANIZATIONAL TROUBLESHOOTING PROCEDURES

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Explanation of Columns 4-11
General 4-11
Page
Organizational Troubleshooting 4-12
Symptom Index 4-11

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GENERAL

The troubleshooting table in this section lists the common malfunctions that may be found during the operation or maintenance of the trailer or components. Do the tests or inspections and corrective actions in the order listed.

This manual cannot list all malfunctions that might occur, nor all tests, inspections, and corrective actions. If a malfunction is not listed, or is not corrected by the corrective action given, notify your supervisor.

Trailer must be hooked to towing vehicle when performing electrical or brake system tests.

EXPLANATION OF COLUMNS

Malfunction. Visual or operational indication that something is wrong with the trailer.

Test or Inspection. Procedure used to isolate the problem in a system or component.

Corrective Action. Procedure used to correct the problem.

SYMPTOM INDEX

This symptom index is provided as a quick way to get you to the troubleshooting procedure that will help you solve the problem that you are having.

Page

BRAKE SYSTEM

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ELECTRICAL SYSTEM

All lamps dim or flickering 4-12
One or more lamps fail to light 4-12

110-VOLT ELECTRICAL SYSTEM (M448 SHOP VAN ONLY)

Circuit breaker trips 4-13
No power 4-13

ORGANIZATIONAL TROUBLESHOOTING

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LAMPS DIM OR FLICKERING.

Step 1. Check for continuity between terminal lug of ground wire tagged number 90 and forward frame member. See electrical system diagram (page 1-16).

If no continuity exists, remove and clean mating surfaces. See Electrical System (page 4-20).

Step 2. Check for continuity between terminal lug of ground wire tagged number 90 and socket of intervehicular cable plug. See electrical system diagram (page 1-16).

If no continuity exists, replace intervehicular cable (page 4-32).

2. ONE OR MORE LAMPS FAIL TO LIGHT.

Step 1. Check affected lamps.

Remove and replace as required. See Electrical System (page 4-20).

Step 2. Check continuity between edge of lamp socket and frame member.

If no continuity exists, remove and clean mating surfaces. See Electrical System (page 4-20).

Step 3. Check continuity between center post of lamp socket and related light assembly plug connectors.

If no continuity exists, replace affected light assembly. See Electrical System (page 4-20).

Step 4. Check related chassis wire harness plug connectors for 24 volts.

If 24 volts are not present, go to step 5.

Step 5. Check related intervehicular cable plug connectors for 24 volts.

If 24 volts are present, replace chassis wire harness (page 4-33).

Step 6. Check towing vehicle receptacle pin connector for 24 volts.

If 24 volts are present, replace intervehicular cable (page 4-32).

If 24 volts are not present, refer to towing vehicle maintenance TM.

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ORGANIZATIONAL TROUBLESHOOTING – CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

110-VOLT ELECTRICAL SYSTEM (M448 SHOP VAN ONLY)

3. CIRCUIT BREAKER TRIPS.

Step 1. With equipment unplugged from outlet and auxiliary power source connected, turn circuit breaker off, then on.

If circuit breaker still trips, disconnect auxiliary power source and go to step 2.

WARNING

To prevent electrical shock, disconnect auxiliary power source. Failure to do so may result in serious injury or loss of life.

Step 2. Check for loose or broken wires.

Tighten or replace wires as required. See Electrical System, 110-Volt (page 4-155).

4. NO POWER.

Step 1. Check for unserviceable circuit breaker. See Electrical System, 110-Volt (page 4-155).

Replace as required. See Electrical System, 110-Volt (page 4-155).

Step 2. Check for broken auxiliary power cable. See Electrical System, 110-Volt (page 4-155).

If broken or damaged, replace. See Electrical System, 110-Volt (page 4-155).

Step 3. Check for loose or broken wires.

If loose or broken, tighten or replace as required. See Electrical System, 110-Volt (page 4-155).

Step 4. Check for unserviceable outlets. See Electrical System, 110-Volt (page 4-155).

If unserviceable, replace. See Electrical System, 110-Volt (page 4-155).

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ORGANIZATIONAL TROUBLESHOOTING – CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKE SYSTEM

5. BRAKES WILL NOT RELEASE (M103A3C CHASSIS ONLY).

Step 1. Check handbrake cable for binding and proper adjustment.

Replace or adjust as required (page 4-47, 4-51, or 4-54).

Step 2. In cold weather, check for frozen brake linings.

Remove wheel and tire (page 3-4) and heat brakedrum to thaw.

Step 3. Check for obstruction in service or emergency vacuum hoses or lines.

Clear obstruction or replace hose or line (page 4-87).

6. BRAKES WILL NOT RELEASE (ALL OTHER MODELS).

Step 1. Check handbrake cable for binding and proper adjustment.

Replace or adjust as required (page 4-47, 4-51, or 4-54).

Step 2. In cold weather, check for frozen brake linings.

Remove wheel and tire (page 3-4), and heat brakedrum to thaw.

Step 3. Check airbrake chamber for proper pushrod travel.

Adjust service brakes as required (page 4-56 or 4-62).

7. BRAKES DO NOT ENGAGE (M103A3C CHASSIS).

Step 1. Check fluid level in brake fluid reservoir.

Fill reservoir. See Lubrication Chart (page 4-2).

Bleed brakes as required (page 4-79).

ORGANIZATIONAL TROUBLESHOOTING – CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 2. Check filters for obstruction.

Replace filter as required (page 4-97).

Step 3. Check for obstruction in emergency vacuum hose or line.

Clear obstruction or replace hose or line as required (page 4-87).

Step 4. Check for worn brake linings.

Replace brakeshoes as required (page 4-56 or 4-62).

8. BRAKES DO NOT ENGAGE (ALL OTHER MODELS).

Step 1. Check fluid level in brake fluid reservoir.

Fill master cylinder. See Lubrication Chart (page 4-2).

Bleed brakes as required (page 4-79).

Step 2. Check filter for obstructions.

Replace filter as required (page 4-97).

Step 3. Check for obstruction in service airhose or line.

Clear obstruction or replace hose or line as required (page 4-100).

Step 4. Check for worn brake linings.

Replace brakeshoes as required (page 4-56 or 4-62).

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Section VI. GENERAL MAINTENANCE INSTRUCTIONS

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Cleaning Instructions.......... 4-17
General.......... 4-16
General Information.......... 4-16
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Repair Instructions.......... 4-19
Tagging Wires and Hoses.......... 4-19
Work Safety.......... 4-16

GENERAL

These general maintenance instructions contain general shop practices and specific methods you must be familiar with to properly maintain the trailer. You should read and understand these practices and methods before starting Organizational tasks on the trailer.

WORK SAFETY

Before starting a task, think about the risks and hazards to your personal safety and others. Wear protective gear such as safety goggles or lenses, safety shoes, rubber apron, or gloves. Protect yourself against injury.

When lifting heavy parts, have someone help you. Make sure that lifting/jacking equipment is working properly, that it is suitable for the task assigned, and is secure against slipping.

Always use power tools carefully. Observe all WARNINGS and CAUTIONS.

GENERAL INFORMATION

Before beginning a task, find out how much repair, modification, or replacement is needed to fix the equipment as described in this manual. Sometimes the reason for equipment failure can be seen right away, and complete teardown is not necessary. Disassemble equipment only as far as necessary to repair or replace damaged or broken parts.

The following initial setup information applies to all procedures:

Resources are not listed unless they apply to the procedure.

Personnel are listed only if more than one technician is required to complete the task. If Personnel Required is not listed, one technician can complete the task.

All tags and forms attached to the equipment must be checked to learn the reason for removal from service. Also, check all Modification Work Orders (MWO) and Technical Bulletins (TB) for equipment changes and updates.

In some cases a part may be damaged by removal. If the part appears to be good, and other parts behind it are not defective, leave it on, and continue the procedure. Here are a few simple rules:

1. Don't take out dowel pins or studs unless loose, bent, broken, or otherwise damaged.
2. Don't pull out bearings or bushings unless damaged. If you get at parts behind them, pull out bearings or bushings carefully.
3. Replace all gaskets, seals, and packings.

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CLEANING INSTRUCTIONS

The cleaning instructions will be the same for the majority of parts and components which make up the trailer.

The following should apply to all cleaning, inspection, repair, and assembly operations.

1. Clean all parts before inspection, after repair, and before assembly.
2. Keep hands free of grease, which can collect dust, dirt, and grit.
3. After cleaning, all parts should be covered or wrapped to protect them from dust and dirt. Parts that are subject to rust should be lightly oiled.

STEAM CLEANING

Before steam cleaning the exterior of the trailer, protect all electrical equipment that could be damaged by the steam or moisture.

Place disassembled parts in a suitable container to steam clean. After cleaning, dry and apply light coat of oil to all parts subject to rust.

CASTINGS, FORGINGS, AND MACHINED METAL PARTS

WARNING

Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (59°C). Injury to personnel could occur.

Clean inner and outer surfaces with drycleaning solvent.

Remove grease and accumulated deposits with a stiff bristle brush.

WARNING

Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury when using compressed air.

Blow out all tapped (threaded) holes with compressed air to remove dirt and cleaning fluids.

ELECTRICAL CABLES, FLEXIBLE HOSE, AND OIL SEALS

CAUTION

Washing oil seals, electrical cables, and flexible hoses with drycleaning solvent or mineral spirits will cause serious damage or destroy the material.

Wash electrical cables and flexible hose with water and mild soap solution, and wipe dry. Oil seals are generally damaged during removal, so cleaning will not be necessary since new seals will be used in assembly.

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CLEANING INSTRUCTIONS – CONTINUED

BEARINGS

Refer to TM 9-214 for instructions and procedures covering care and maintenance of bearings.

INSPECTION INSTRUCTIONS

All components and parts must be carefully checked to determine if they are serviceable for reuse, can be repaired, or must be scrapped.

DRILLED AND TAPPED (THREADED) HOLES

Inspect for wear, distortion, cracks, or any other damage in or around holes.

Inspect threaded areas for wear, distortion (stretching), or evidence of cross-threading.

Mark all damaged areas for repair or replacement.

METAL LINES, FLEXIBLE LINES (HOSES), AND METAL FITTINGS

Inspect metal lines for sharp kinks, cracks, bad bends, or dents.

Inspect flexible lines for fraying, evidence of leakage, or loose metal fittings or connectors.

Check all metal fittings and connectors for thread damage, and check for hex heads that are worn or rounded by poorly fitting wrenches.

Mark all damaged material for repair or replacement.

CASTINGS, FORGINGS, AND MACHINED METAL PARTS

Inspect machined surfaces for nicks, burrs, raised metal, wear, or other damage.

Check all inner and outer surfaces for breaks or cracks.

Mark all damaged material for repair or replacement.

BEARINGS

Refer to TM 9-214 for inspection instructions and defect analysis.

AIR LINES, FITTINGS, AND CONNECTIONS

Check for leaking fittings and connections by coating fittings and connections with soap solution. No leakage is permissible.

TAGGING WIRES AND HOSES

a. As soon as first wire or hose is disconnected, write number 1 on two tags. Secure one tag to the wire or hose and the other tag to the terminal, nipple, or fitting. After disconnecting the second wire or hose, write number 2 on two tags. Secure one tag to wire or hose, and second tag to terminal, nipple, or fitting. Do the same for all the rest of the hoses and fittings.

b. Note what numbers you used, in pencil, on the art in this manual. This will help you to retag in the proper order when you remove the tags from some parts to perform cleaning and maintenance work. Remove tags when finished.

REPAIR INSTRUCTIONS

NOTE

> For accuracy, refer to the Source, Maintenance, and Recoverability codes (SMR) assigned to support items listed in the maintenance Repair Parts and Special Tools Lists (RPSTL), appendix F contained in this manual.

Any repair procedure peculiar to a specific part or component is covered in the section or paragraph relating to that item. After repair, clean all parts thoroughly to prevent dirt, metal chips, or other foreign material from entering any working parts.

CASTINGS, FORGINGS, AND MACHINED METAL PARTS

a. Minor cracked castings or forgings may possibly be repaired. Refer to TM 9-237.

b. Repair minor damage to machined surfaces with a fine mill file or crocus cloth dipped in dry-cleaning solvent.

c. Any deeply nicked machined surface that could affect the assembly operation should be replaced.

d. Minor damage to threaded capscrew holes should be repaired with thread tap of same size to prevent cutting oversize.

METAL LINES, FLEXIBLE LINES (HOSES), AND METAL FITTINGS

Refer to air lines and fittings maintenance procedures (page 4-100).

Section VII. ELECTRICAL SYSTEM

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Blackout Stoplight, Lamp and Lens	4-25	Service Taillight and Blackout Taillight, Lamp and Lens	4-20
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Composite Light, Lamp and Lens	4-28		
Intervehicular Cable	4-32		

SERVICE TAILLIGHT AND BLACKOUT TAILLIGHT, LAMP AND LENS

This task covers:

a. Removal (page 4-21)
b. Installation (page 4-22)

INITIAL SETUP

Tools

Screwdriver, flat-tip, 3/8-inch

Materials/Parts

Lamps (if required)
Packing (if required)

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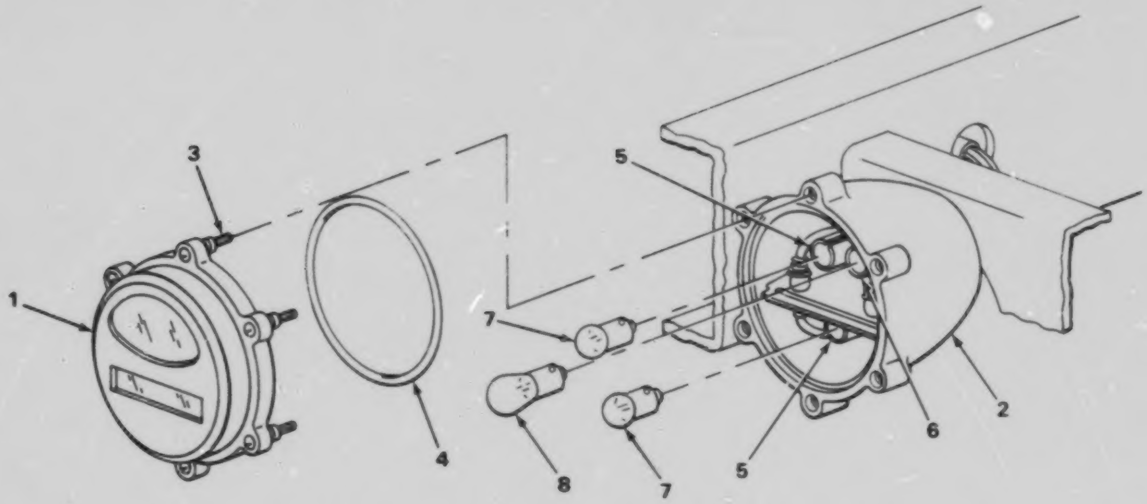
SERVICE TAILLIGHT AND BLACKOUT TAILLIGHT, LAMP AND LENS – CONTINUED

NOTE

Procedure given below for the service taillight is the same for the blackout taillight. The blackout taillight has only two lamps.

REMOVAL

	LOCATION	ITEM	ACTION REMARKS
1.	Door (1) to light body (2)	Six captive screws (3)	Using 3/8-inch flat-tip screwdriver, loosen.
2.	Light body (2)	Door (1) and packing (4)	Using 3/8-inch flat-tip screwdriver, pry off. **Discard packing, if unserviceable.**
3.	Sockets (5 and 6)	Lamps (7 and 8)	Remove by pushing in and turning counterclockwise. **Discard lamps, if unserviceable.**



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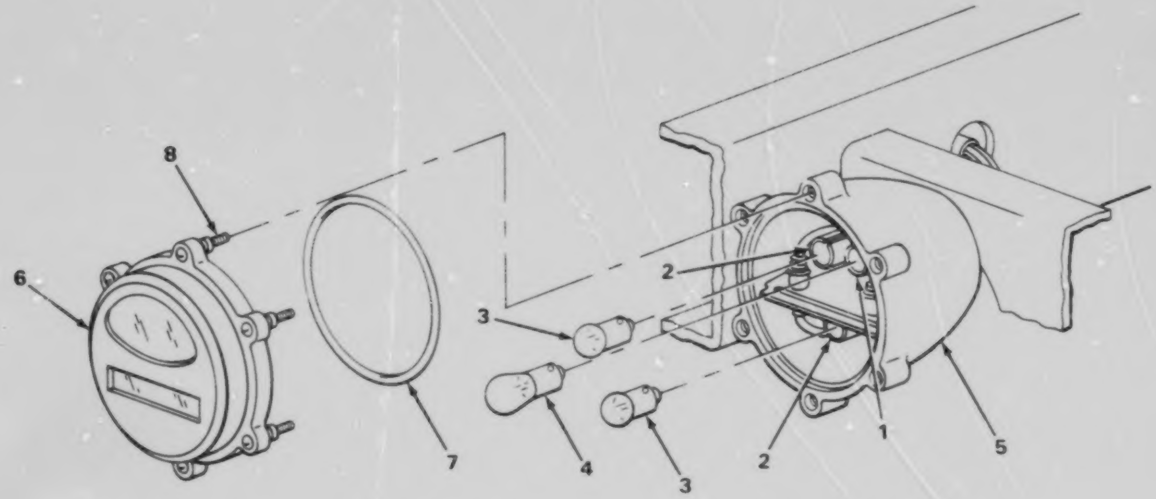
SERVICE TAILLIGHT AND BLACKOUT TAILLIGHT, LAMP AND LENS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
4. Sockets (1 and 2)	New lamps (3 and 4)	Install by pushing in and turning clockwise.

NOTE

Prior to installing the door and lens assembly, test new lamps for proper operation.

LOCATION	ITEM	ACTION REMARKS
5. Light body (5)	Door (6) and packing (7)	Place in position.
6. Door (6) to light body (5)	Six captive screws (8)	Using 3/8-inch flat-tip screwdriver, tighten.



TASK ENDS HERE

SERVICE TAILLIGHT AND BLACKOUT TAILLIGHT

This task covers:

a. Removal (page 4-23)
b. Installation (page 4-24)

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SERVICE TAILLIGHT AND BLACKOUT TAILLIGHT – CONTINUED

INITIAL SETUP

Tools	Materials/Parts
Handle, ratchet, 3/8-inch drive Screwdriver, flat-tip, 3/8-inch Socket, 3/8-inch drive, 9/16-inch	Grommet (if required) Tags, marker (if required) (item 12, appendix E)

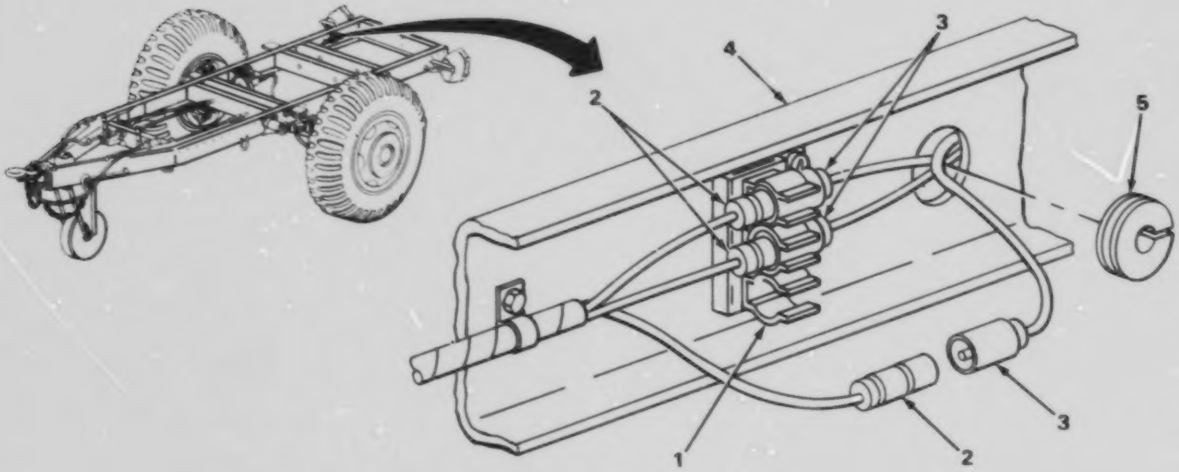
REMOVAL

NOTE

Procedure given below for the service taillight is the same for the blackout taillight. However, the blackout taillight has only two plug connectors.

If numbered wire identification bands are not legible or are missing, identify wires with marker tags, and see page 4-35 for installation of new wire identification bands.

LOCATION	ITEM	ACTION **REMARKS**
1. Clips (1)	Three plug connectors (2 and 3)	a. Pull out. b. Pull apart.
2. Frame rail (4)	Grommet (5)	Using 3/8-inch flat-tip screwdriver, pry out. **Discard grommet, if unserviceable.**



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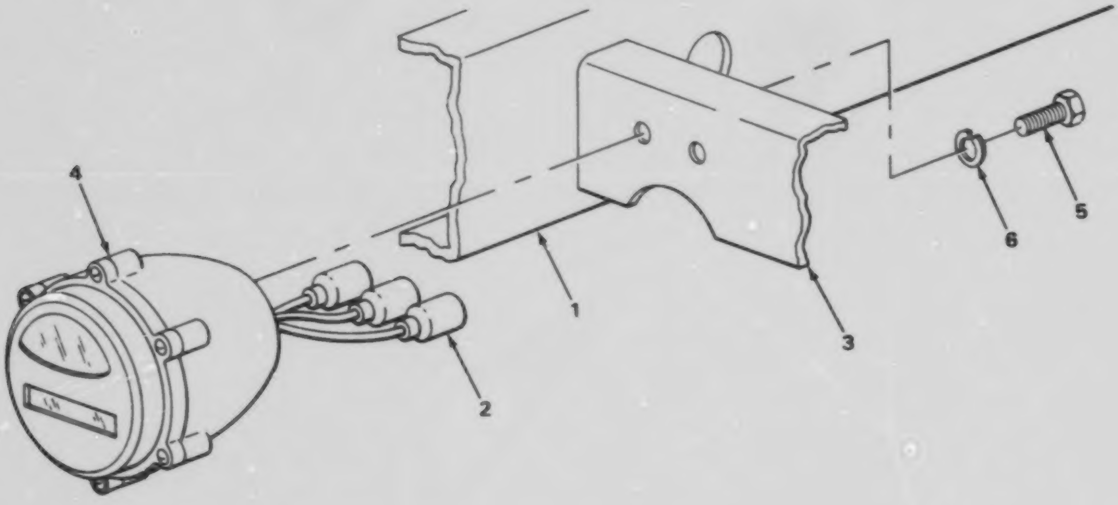
SERVICE TAILLIGHT AND BLACKOUT TAILLIGHT – CONTINUED

REMOVAL – CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Frame rail (1)	Three plug connectors (2)	Draw through hole in frame rail.
4. Bracket (3) to taillight (4)	Two screws (5) and two lockwashers (6)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
5. Bracket (3)	Taillight (4)	Pull off.

INSTALLATION

LOCATION	ITEM	ACTION REMARKS
6. Bracket (3)	Taillight (4)	Place in position.
7. Bracket (3) to taillight (4)	Two screws (5) and two lockwashers (6)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
8. Frame rail (1)	Three plug connectors (2)	Pass through hole in frame rail.



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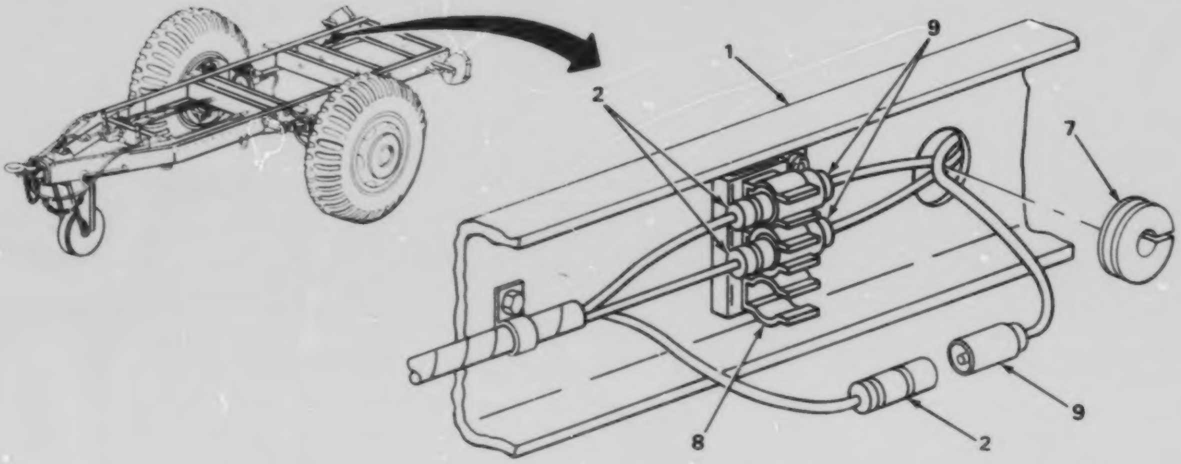
SERVICE TAILLIGHT AND BLACKOUT TAILLIGHT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
9.	Frame rail (1)	Grommet (7)	Using 3/8-inch flat-tip screwdriver, push into position.
10.	Clips (8)	Three plug connectors (2 and 9)	a. Match wire identification bands, and connect. b. Insert in clips.



TASK ENDS HERE

BLACKOUT STOPLIGHT, LAMP AND LENS

This task covers:

a. Removal (page 4-26)
b. Installation (page 4-26)

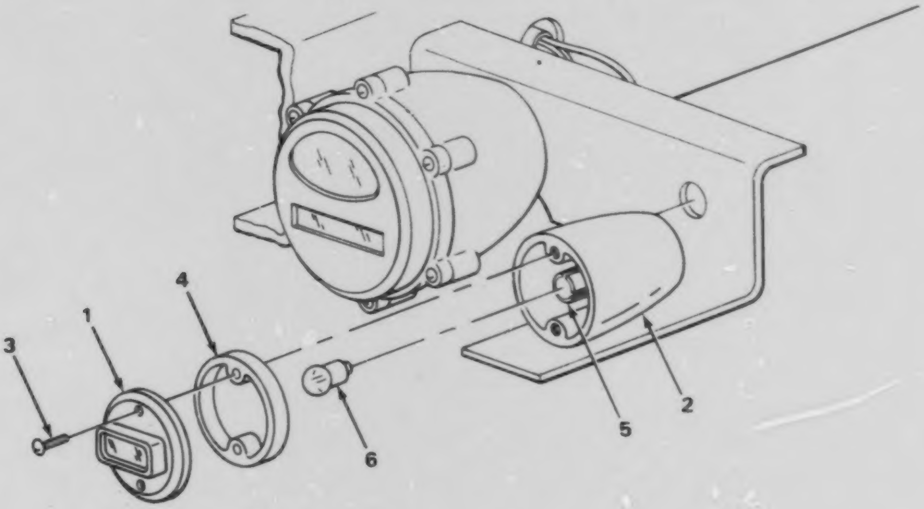
INITIAL SETUP

Tools	Materials/Parts
Screwdriver, flat-tip, 3/8-inch	Lamp (if required) Gasket (if required)

TA231038

BLACKOUT STOPLIGHT, LAMP AND LENS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Door (1) to housing (2)	Two screws (3)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
2. Housing (2)	Door (1) and gasket (4)	Using 3/8-inch flat-tip screwdriver, pry off. **Discard gasket, if unserviceable.**
3. Socket (5)	Lamp (6)	Remove by pushing in and turning counterclockwise. **Discard lamp, if unserviceable.**
INSTALLATION		
4. Socket (5)	New lamp (6)	Install by pushing in and turning clockwise.
5. Housing (2)	Door (1) and gasket (4)	Place in position.
6. Door (1) to housing (2)	Two screws (3)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.



TASK ENDS HERE

TA231039

BLACKOUT STOPLIGHT

This task covers:

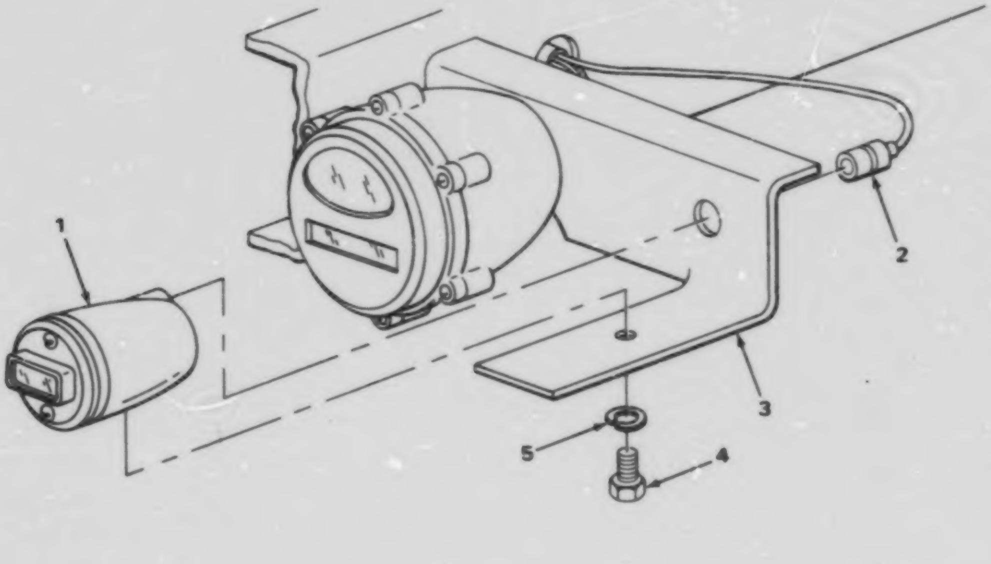
- a. Removal (page 4-27)
- b. Installation (page 4-28)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
Socket, 3/8-inch drive, 1/2-inch

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Stoplight (1)	Plug connector (2)	Disconnect.
2. Bracket (3) to stoplight (1)	Bolt (4) and lockwasher (5)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
3. Bracket (3)	Stoplight (1)	Pull off.



TA231040

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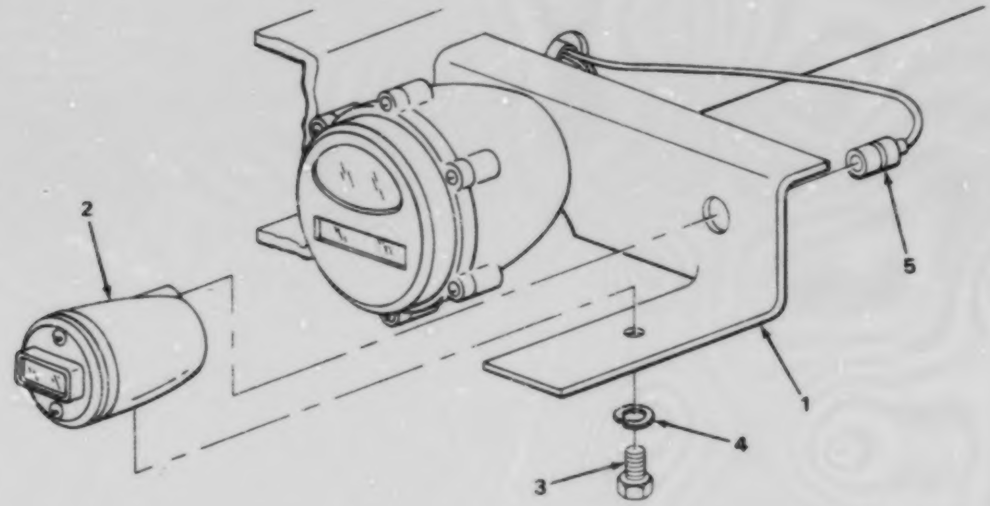
BLACKOUT STOPLIGHT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	INSTALLATION		
4.	Bracket (1)	Stoplight (2)	Place in position.
5.	Bracket (1) to stoplight (2)	Bolt (3) and lockwasher (4)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
6.	Stoplight (2)	Plug connector (5)	Push in.



TASK ENDS HERE

COMPOSITE LIGHT, LAMP AND LENS

This task covers:

a. Removal (page 4-29)
b. Installation (page 4-29)

INITIAL SETUP

Tools	Materials/Parts
Screwdriver, flat-tip, 3/8-inch	Lamps (if required) Packing (if required)

TA231041

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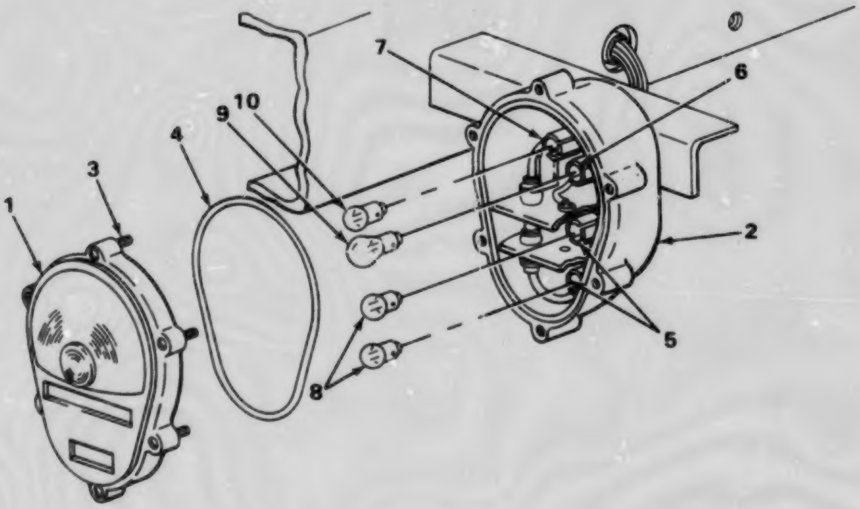
COMPOSITE LIGHT, LAMP AND LENS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Lens (1) to light body (2)	Six captive screws (3)	Using 3/8-inch flat-tip screwdriver, fully loosen.
2. Light body (2)	Lens (1) and packing (4)	Using 3/8-inch flat-tip screwdriver, pry off. **Discard packing, if unserviceable.**
3. Sockets (5, 6, and 7)	Lamps (8, 9, and 10)	Remove by pushing in and turning counterclockwise. **Discard lamps, if unserviceable.**
INSTALLATION		
4. Sockets (5, 6, and 7)	New lamps (8, 9, and 10)	Install by pushing in and turning clockwise.
5. Light body (2)	Lens (1) and packing (4)	Place in position.
6. Lens (1) to light body (2)	Six captive screws (3)	Using 3/8-inch flat-tip screwdriver, tighten.



TASK ENDS HERE

TA231042

COMPOSITE LIGHT

This task covers:

a. Removal (page 4-30)
b. Installation (page 4-30)

INITIAL SETUP

Tools	Materials/Parts
Screwdriver, flat-tip, 3/8-inch	Grommet (if required)
Wrench, open-end, 9/16-inch	Tags, marker (if required) (item 12, appendix E)

REMOVAL

NOTE

If numbered wire identification bands are not legible or are missing, identify wires with marker tags, and see page 4-35 for installation of new wire identification bands.

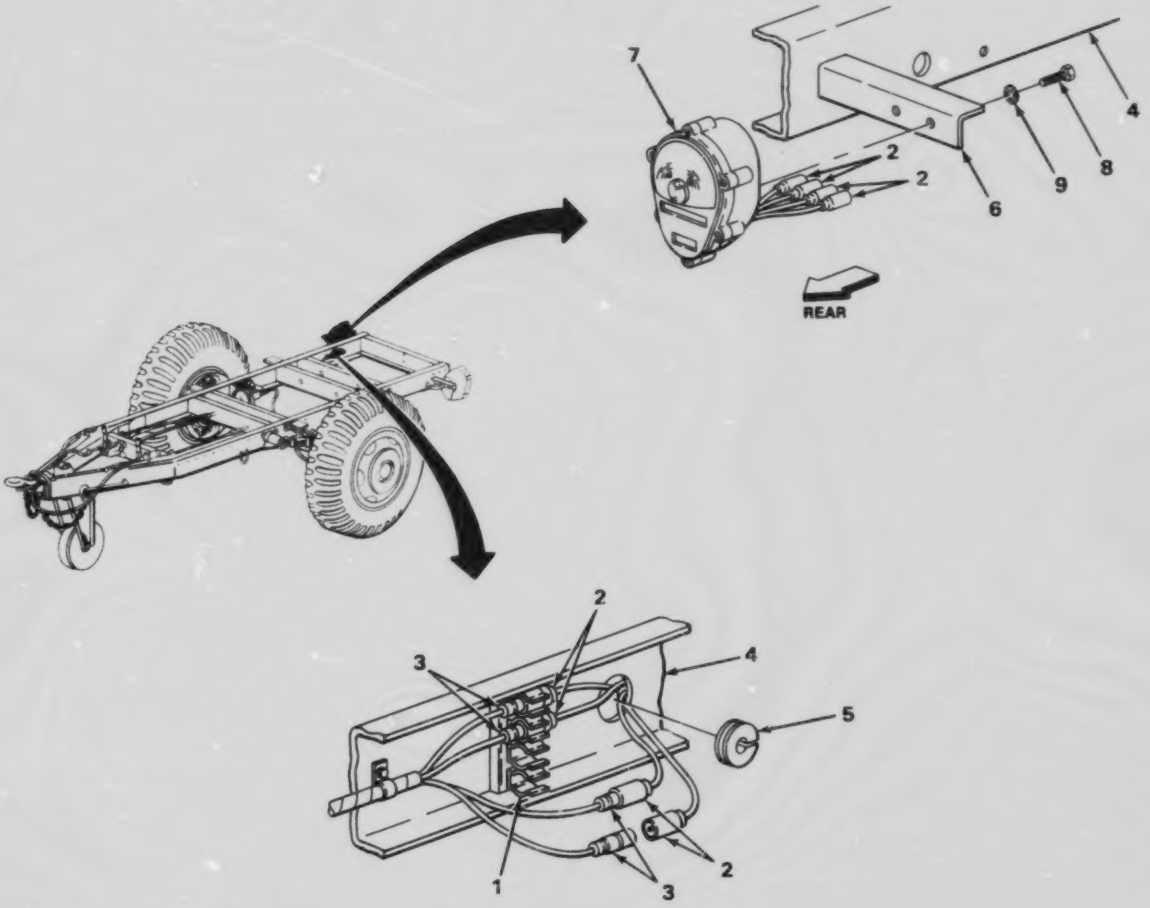
LOCATION	ITEM	ACTION REMARKS
1. Clips (1)	Four plug connectors (2 and 3)	a. Pull out. b. Pull apart.
2. Frame rail (4)	Grommet (5)	Using 3/8-inch flat-tip screwdriver, pry out. **Discard grommet, if unserviceable.**
3. Frame rail (4)	Four plug connectors (2)	Draw through hole in frame rail.
4. Bracket (6) to light (7)	Two screws (8) and two lockwashers (9)	Using 9/16-inch open-end wrench, unscrew and take out.
5. Bracket (6)	Light (7)	Pull off.

INSTALLATION

LOCATION	ITEM	ACTION REMARKS
6. Bracket (6)	Light (7)	Place in position.
7. Bracket (6) to light (7)	Two screws (8) and two lockwashers (9)	Using 9/16-inch open-end wrench, screw in and tighten.

COMPOSITE LIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
8. Frame rail (4)	Four plug connectors (2)	Pass through hole in frame rail.
9. Frame rail (4)	Grommet (5)	Using 3/8-inch flat-tip screwdriver, push into position.
10. Clips (1)	Four plug connectors (2 and 3)	a. Match wire identification bands, and connect. b. Insert in clips.



TASK ENDS HERE

TA231043

INTERVEHICULAR CABLE

This task covers:

a. Removal (page 4-32)
b. Installation (page 4-32)

INITIAL SETUP

Tools	Materials/Parts
Screwdriver, cross-tip, number two	Tags, marker (if required) (item 12, appendix E)

LOCATION	ITEM	ACTION REMARKS

REMOVAL

NOTE

If numbered wire identification bands are not legible or are missing, identify wires with marker tags, and see page 4-35 for installation of new wire identification bands.

Models M105A1 and M107A1 contain five plug connectors and all other models contain six plug connectors.

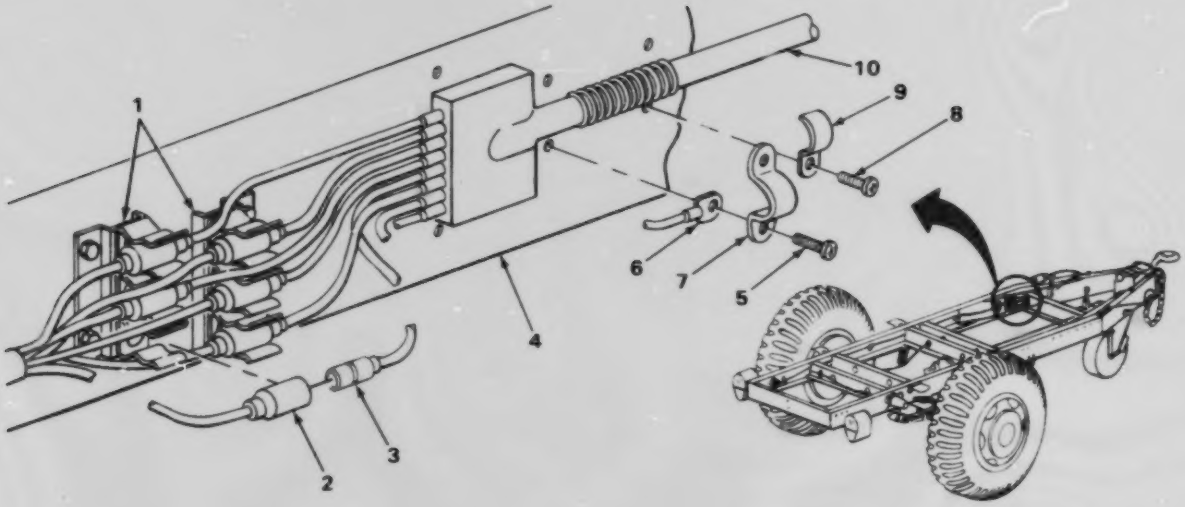
LOCATION	ITEM	ACTION REMARKS
1. Clips (1)	Plug connectors (2 and 3)	a. Pull out. b. Pull apart.
2. Drawbar (4)	Two screws (5), terminal (6), and clip (7)	Using number two cross-tip screwdriver, take off.
3.	Three screws (8), three straps (9), and cable (10)	Using number two cross-tip screwdriver, take off.

INSTALLATION

LOCATION	ITEM	ACTION REMARKS
4. Drawbar (4)	Three screws (8), three straps (9), and cable (10)	a. Place cable and straps in position. b. Using number two cross-tip screwdriver, install screws.

INTERVEHICULAR CABLE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
5.	Two screws (5), terminal (6), and clip (7)	a. Place strap and terminal lug in position over cable end. b. Using number two cross-tip screwdriver, install screws.
6. Clips (1)	Plug connectors (2 and 3)	a. Match wire identification bands, and connect. b. Insert in clips.



TASK ENDS HERE

CHASSIS WIRE HARNESS

This task covers:

a. Removal (page 4-34)
b. Installation (page 4-34)

INITIAL SETUP

Tools	Materials/Parts
Screwdriver, cross-tip, number two	Tags, marker (if required) (item 12, appendix E)

TA231044

CHASSIS WIRE HARNESS – CONTINUED

REMOVAL

NOTE

If numbered wire identification bands are not legible or are missing, identify wire with marker tags, and see page 4-35 for installation of new identification bands.

LOCATION	ITEM	ACTION REMARKS
1. Clips (1)	Six plug connectors (2 and 3)	a. Pull out. b. Pull apart.
2. Drawbar (4)	Two screws (5) and strap (6)	Using number two cross-tip screwdriver, unscrew and take off.
3. Clips (7)	Three plug connectors (8 and 9)	Remove and separate. **Repeat on opposite side of trailer.**
4. Frame rail (10) and crossmember (11)	Eight screws (12), eight clamps (13), and harness (14)	Using number two cross-tip screwdriver, unscrew and take off.

INSTALLATION

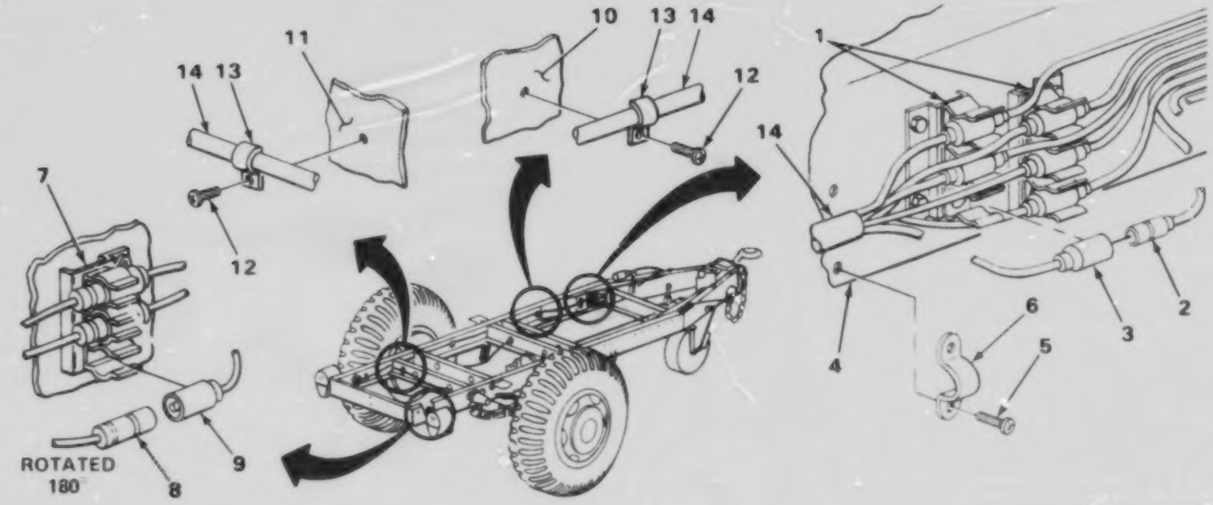
5. Frame rail (10) and crossmember (11)	Eight screws (12), eight clamps (13), and harness (14)	a. Place harness in position. b. Using number two cross-tip screwdriver, install clamps and screws.

NOTE

Models M105A1 and M107A1 contain five plug connectors and all other models contain six plug connectors.

6. Clips (7)	Three plug connectors (8 and 9)	a. Match wire identification bands, and connect. b. Insert in clips. **Repeat on opposite side of trailer.**
7. Clips (1)	Six plug connectors (2 and 3)	a. Match wire identification bands, and connect. b. Insert in clips.
8. Drawbar (4)	Two screws (5) and strap (6)	Using number two cross-tip screwdriver, screw in and tighten.

CHASSIS WIRE HARNESS – CONTINUED



TASK ENDS HERE

WIRE HARNESS REPAIR

This task covers:

a. Numbered wire identification band replacement (page 4-36)
b. Ring terminal replacement (page 4-36)
c. Male connector repair (page 4-36)
d. Female connector repair (page 4-37)

INITIAL SETUP

Tools

- Crimper, terminal
- Die set, metal stamping, 3/16-inch
- Hammer, ball-peen, 3-pound
- Pliers, diagonal-cutting
- Screwdriver, flat-tip, 3/8-inch
- Stripper, wire, hand

Materials/Parts

- Contact, male or female (as required)
- Identification bands (as required)
- Ring terminal (as required)
- Shell, male or female (as required)

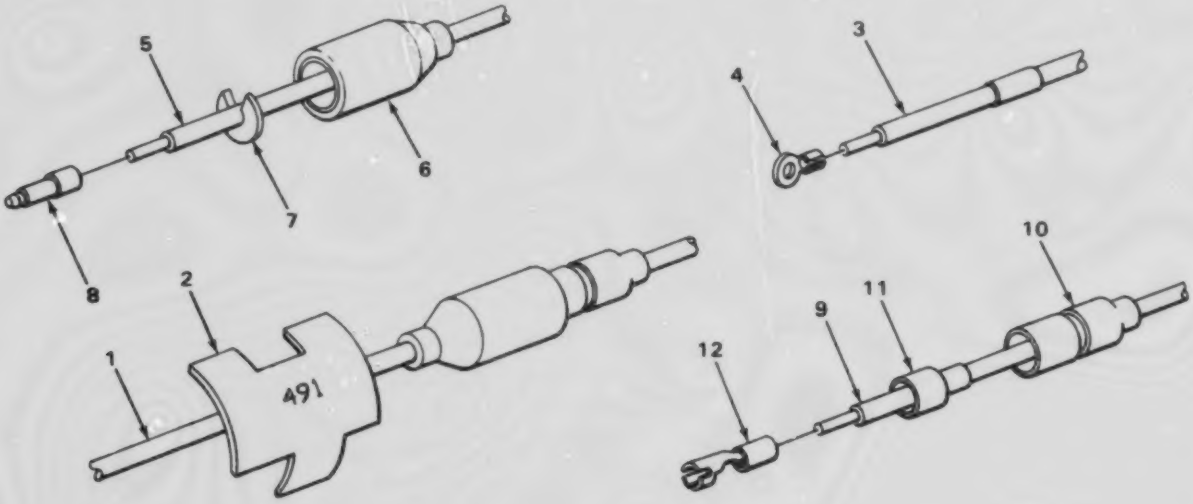
TA231045

WIRE HARNESS REPAIR – CONTINUED

LOCATION	ITEM	ACTION REMARKS
NUMBERED WIRE IDENTIFICATION BAND REPLACEMENT		
1. Wire lead (1)	Band (2)	Using 3/8-inch flat-tip screwdriver, open tabs and take off.
2.	New band (2)	Using 3/16-inch metal stamp die set and 3-pound ball-peen hammer, mark with proper number.
3.	New band (2)	a. Place in position. b. Using terminal crimper, bend tabs over.
RING TERMINAL REPLACEMENT		
4. Wire lead (3)	Terminal (4)	Using diagonal-cutting pliers, cut off.
5.	Wire lead (3)	Using hand wire stripper, strip off insulation equal to depth of new terminal.
6.	Terminal (4)	a. Place in position. b. Using terminal crimper, crimp.
MALE CONNECTOR REPAIR		
7. Wire lead (5)	Shell (6)	Slide back.
8.	Washer (7)	Remove.
9.	Contact (8)	Using diagonal-cutting pliers, cut off.
10.	Shell (6)	Remove.
11.	Wire lead (5)	Using hand wire stripper, strip off insulation equal to depth of new contact.
12.	Shell (6)	Slide on.
13.	Contact (8)	a. Place in position. b. Using terminal crimper, crimp.
14.	Washer (7)	Put in place.
15.	Shell (6)	Slide over washer and contact.

WIRE HARNESS REPAIR – CONTINUED

LOCATION	ITEM	ACTION REMARKS
FEMALE CONNECTOR REPAIR		
16. Wire lead (9)	Connector (10) and insulator (11)	Slide back.
17.	Terminal (12)	Using diagonal-cutting pliers, cut off.
18.	Connector (10) and insulator (11)	Slide off.
19.	Wire lead (9)	Using hand wire stripper, strip off insulation equal to depth of new terminal.
20.	Connector (10) and insulator (11)	Slide on.
21.	Terminal (12)	a. Place in position. b. Using terminal crimper, crimp.
22.	Connector (10) and insulator (11)	Slide over terminal.



TA231046

TASK ENDS HERE

Section VIII. AXLE

Page
Axle 4-38

AXLE

This task covers:

a. Removal (page 4-38)
b. Installation (page 4-40)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
Handle, ratchet, 1/2-inch drive
Jack, hand, hydraulic, 5-ton (two required)
Jack stand, 2-ton (two required)
Socket, 3/8-inch drive, 7/16-inch
Socket, 3/8-inch drive, 9/16-inch
Socket, deep, 1/2-inch drive, 1 1/8-inch
Wrench, box-end, 9/16-inch

Tools – Continued

Wrench, box-end, 7/16-inch

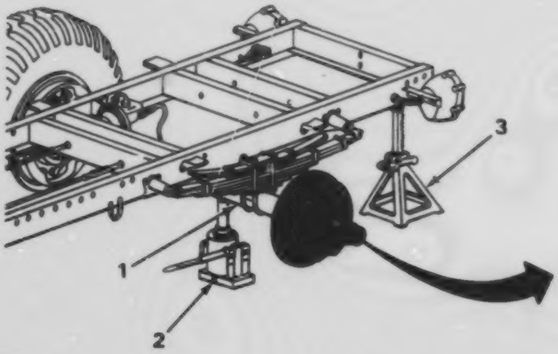
Personnel Required

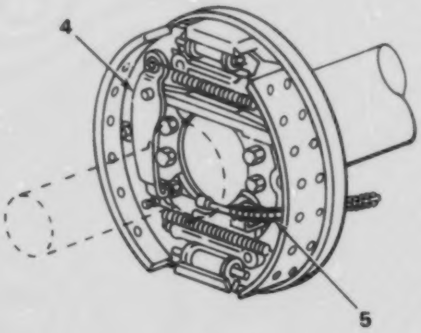
Two

Equipment Condition

Hubs and drums removed (page 4-102).

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Axle (1)	5-ton hydraulic hand jack (2) and two 2-ton jack stands (3)	a. Using 5-ton hydraulic hand jack, raise axle. b. Position 2-ton jack stands under frame rails at each corner of rear cross-member.
2. Handbrake lever (4)	Handbrake cable (5)	Disconnect.





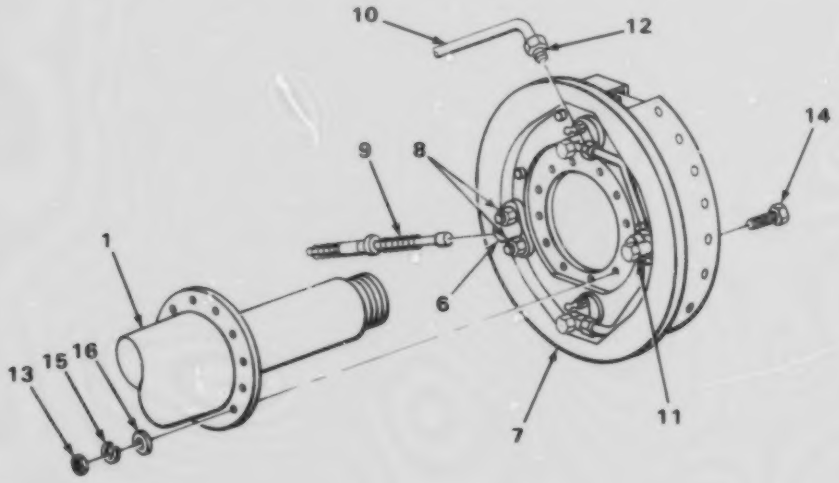
TA231047

AXLE – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
3.	Cable guide bracket (6) to backing plate (7)	Two nuts (8)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, loosen.
4.	Backing plate (7)	Handbrake cable (9)	Pull out.
5.	Tube (10) to connector (11)	Inverted nut (12)	Using 7/16-inch open-end wrench, unscrew.
6.	Backing plate (7) to axle (1)	12 nuts (13), 12 screws (14), 12 lockwashers (15), and 12 flat washers (16)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, unscrew and take out.
7.	Axle (1)	Backing plate (7)	Take off.

NOTE

Repeat steps 2 thru 7 on opposite side of trailer.

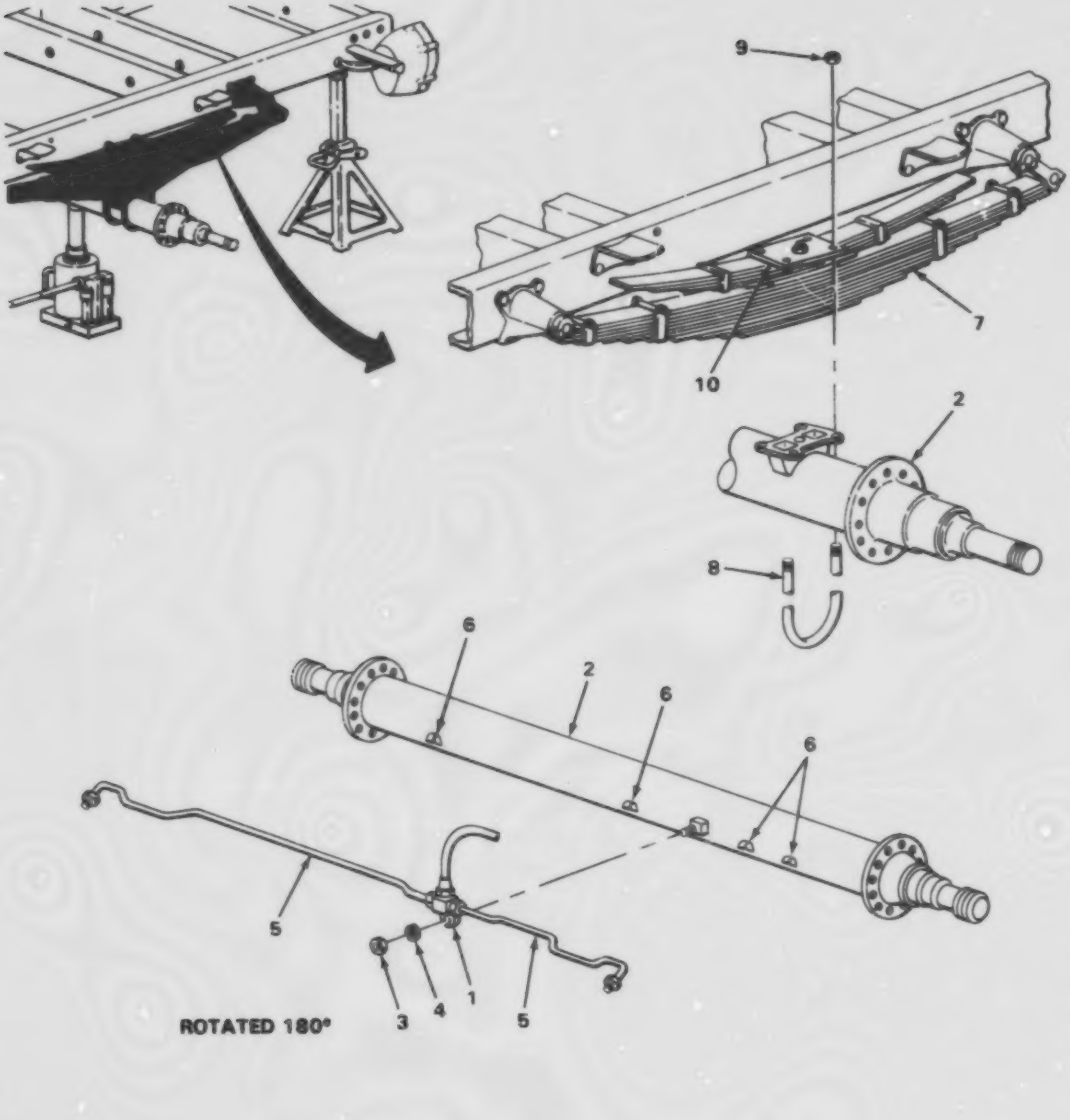


TA231048

AXLE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
8. Connector (1) to axle (2)	Nut (3) and lockwasher (4)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take off.
9. Axle (2)	Connector (1) and two tubes (5)	a. Remove tubes from clips (6). b. Remove connector with tubes.
10. Axle (2) to springs (7)	Four U-bolts (8), eight nuts (9), and plate (10)	a. Using 5-ton hydraulic hand jack, support axle at both ends. b. Using 1 1/8-inch socket and ratchet handle with 1/2-inch drive, take off.
11. Springs (7)	Axle (2)	With assistant, lower and remove.
INSTALLATION		
12. Springs (7)	Axle (2)	Place in position and support at both ends.
13. Axle (2) to springs (7)	Four U-bolts (8), eight nuts (9), and plate (10)	Using 1 1/8-inch socket and ratchet handle with 1/2-inch drive, screw in and tighten.
14. Axle (2)	Connector (1) and two tubes (5)	a. Place connector in position. b. Push tubes in clips.
15. Connector (1) to axle (2)	Nut (3) and lockwasher (4)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, tighten.

AXLE - CONTINUED


9
7
10
2
8
6
2
6
6
5
3
4
1
5
ROTATED 180°

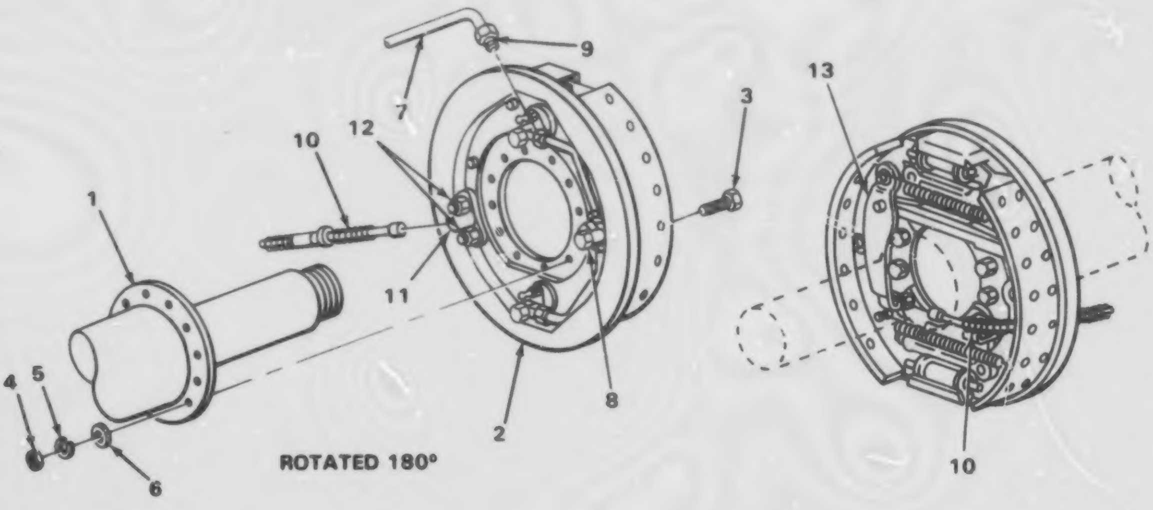
TA231049

AXLE – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	INSTALLATION – CONTINUED		
16.	Axle (1)	Backing plate (2)	Place in position.
17.	Backing plate (2) to axle (1)	12 screws (3), 12 nuts (4), 12 lockwashers (5), and 12 flat washers (6)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, tighten.
18.	Tube (7) to connector (8)	Inverted nut (9)	Using 7/16-inch open-end wrench, tighten.
19.	Backing plate (2)	Handbrake cable (10)	Position under cable guide bracket (11).
20.	Cable guide bracket (11) to backing plate (2)	Two nuts (12)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, tighten.
21.	Handbrake lever (13)	Handbrake cable (10)	Connect.

NOTE

Repeat steps 16 thru 21 on opposite side of trailer.



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AXLE – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Install hub and drum assemblies (page 4-102).

TASK ENDS HERE

Section IX. BRAKE SYSTEM

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HANDBRAKE LEVER, M107A1, REAR MOUNTED

This task covers:

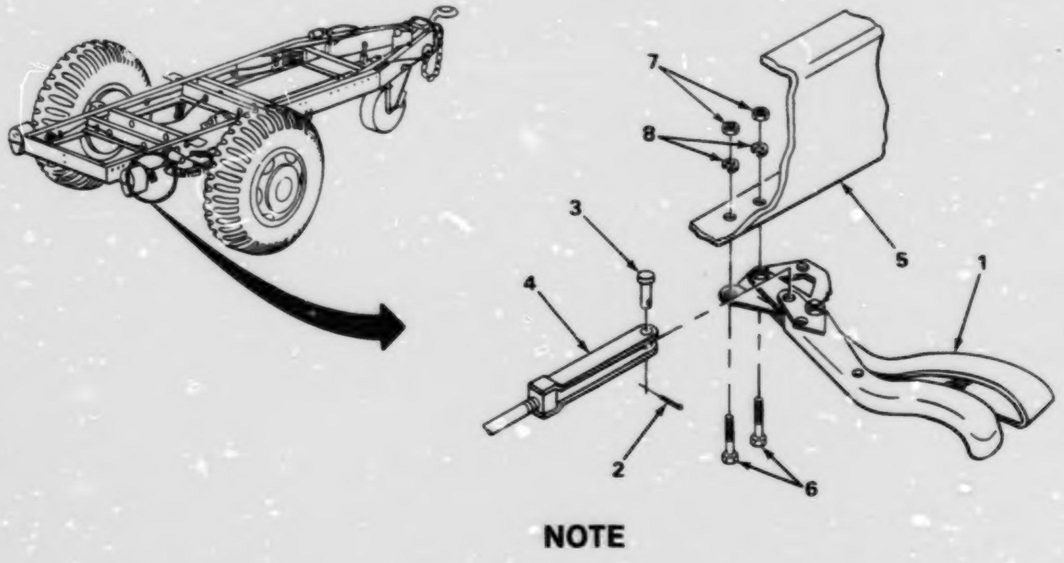
a. Removal (page 4-44)
b. Installation (page 4-44)

INITIAL SETUP

Tools	Materials/Parts
Handle, ratchet, 3/8-inch drive Pliers, diagonal-cutting Socket, 3/8-inch drive, 9/16-inch Wrench, open-end, 9/16-inch	Cotter pin

HANDBRAKE LEVER, M107A1, REAR MOUNTED – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Handbrake lever (1)	Cotter pin (2), clevis pin (3), and clevis (4)	Using diagonal-cutting pliers, remove. **Discard cotter pin.**
2. Handbrake lever (1) to side rail (5)	Two bolts (6), two nuts (7), and two lockwashers (8)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, take off.
3. Side rail (5)	Handbrake lever (1)	Take off.
INSTALLATION		
4. Side rail (5)	Handbrake lever (1)	Place in position.
5. Handbrake lever (1) to side rail (5)	Two bolts (6), two nuts (7), and two lockwashers (8)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, screw in and tighten.
6. Handbrake lever (1)	Cotter pin (2), clevis pin (3), and clevis (4)	a. Position clevis and insert clevis pin. b. Using diagonal-cutting pliers, install new cotter pin.



NOTE

FOLLOW-ON MAINTENANCE: Adjust handbrake cable (page 4-51).

TASK ENDS HERE

TA231051

HANDBRAKE LEVER, FRONT MOUNTED (ALL EXCEPT M107A1)

This task covers:

a. Removal (page 4-45)
b. Installation (page 4-46)

INITIAL SETUP

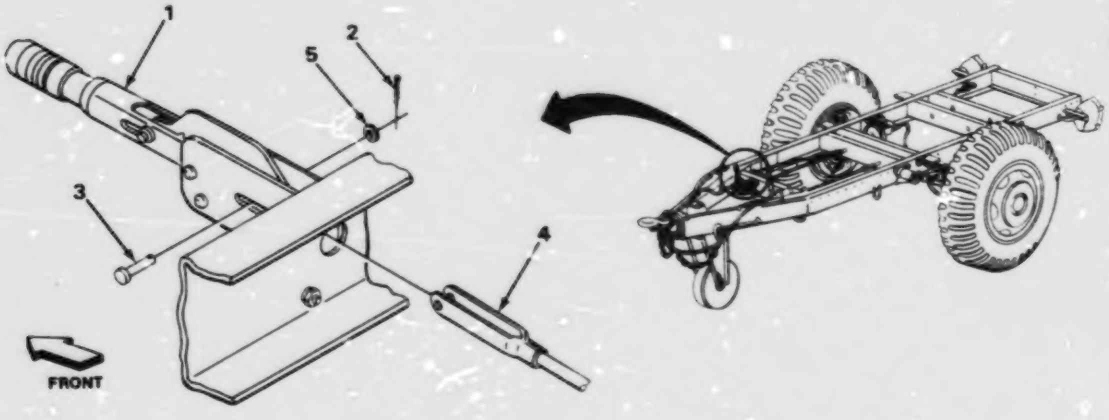
Tools

Handle, ratchet, 3/8-inch drive
Pliers, diagonal-cutting
Socket, 3/8-inch drive, 9/16-inch
Wrench, open-end, 9/16-inch

Materials/Parts

Cotter pin

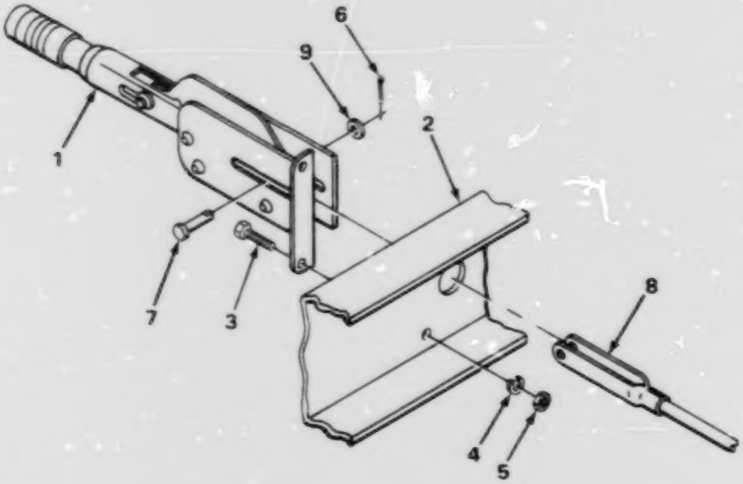
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Handbrake lever (1)	Cotter pin (2), clevis pin (3), clevis (4), and flat washer (5)	Using diagonal-cutting pliers, pry out cotter pin, and take out clevis pin, clevis, and flat washer. **Discard cotter pin.**



TA231052

HANDBRAKE LEVER, FRONT MOUNTED (ALL EXCEPT M107A1) – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
2. Handbrake lever (1) to crossmember (2)	Two screws (3), two lockwashers (4), and two nuts (5)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, unscrew and take off.
3. Crossmember (2)	Handbrake lever (1)	Take off.
INSTALLATION		
4. Crossmember (2)	Handbrake lever (1)	Place in position.
5. Handbrake lever (1) to crossmember (2)	Two screws (3), two lockwashers (4), and two nuts (5)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, screw in and tighten.
6. Handbrake lever (1)	Cotter pin (6), clevis pin (7), clevis (8), and flat washer (9)	a. Position clevis and insert clevis pin. b. Using diagonal-cutting pliers, install flat washer and new cotter pin.



NOTE

FOLLOW-ON MAINTENANCE: Adjust handbrake lever (page 3-7).

TASK ENDS HERE

TA231053

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HANDBRAKE CABLE (ALL EXCEPT M107A1)

This task covers:

a. Removal (page 4-47)
b. Installation (page 4-49)

INITIAL SETUP

Tools

- Handle, ratchet, 3/8-inch drive
- Pliers, diagonal-cutting
- Socket, 3/8-inch drive, 7/16-inch
- Socket, 3/8-inch drive, 1/2-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch

Materials/Parts

- Cotter pin

Equipment Condition

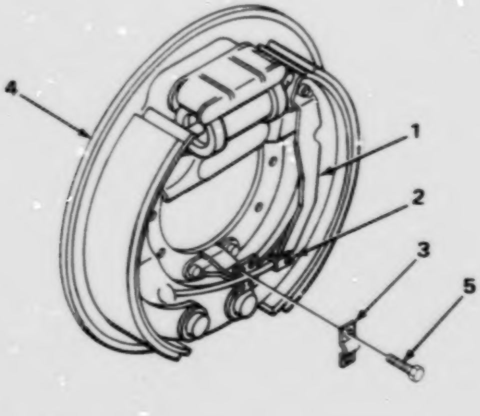
- Hub and drum removed (page 4-102).

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Brake lever (1)	Handbrake cable (2)	Disconnect.

NOTE

For chassis models M103A3, M103A3C, and M103A4 only, proceed with step 3.

LOCATION	ITEM	ACTION **REMARKS**
2. Bracket (3) to backing plate (4)	Two bolts (5)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, loosen. **Proceed with step 4.**



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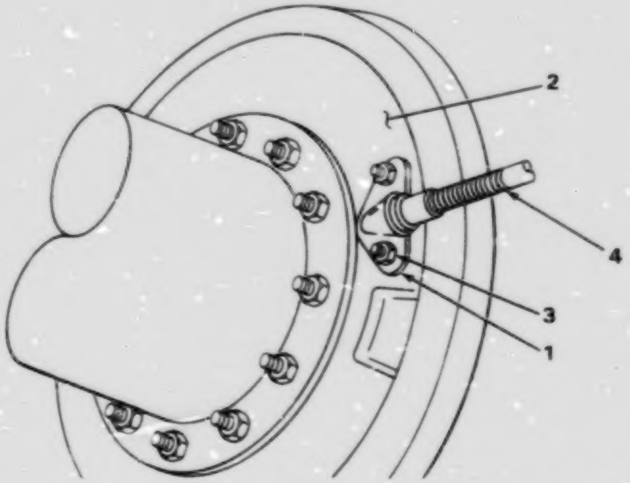
HANDBRAKE CABLE (ALL EXCEPT M107A1) – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
3. Guide bracket (1) to backing plate (2)	Two nuts (3)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, loosen.
4. Backing plate (2)	Handbrake cable (4)	Pull out.



LOCATION	ITEM	ACTION REMARKS
5. Turnbuckle (5)	Two nuts (6)	Using 9/16-inch open-end wrench, loosen.
6. Handbrake lever (7)	Cotter pin (8), clevis pin (9), and clevis (10)	Using diagonal-cutting pliers, take out. **Discard cotter pin.**
7. Bracket (11) to crossmember (12)	Two bolts (13), two nuts (14), and two lockwashers (15)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch open-end wrench, unscrew and take out.
8. Crossmember (12)	Bracket (11) and handbrake cable (16)	Take off.
9. Handbrake cable (16) to rod (17)	Turnbuckle (5) and two nuts (6)	Take off.

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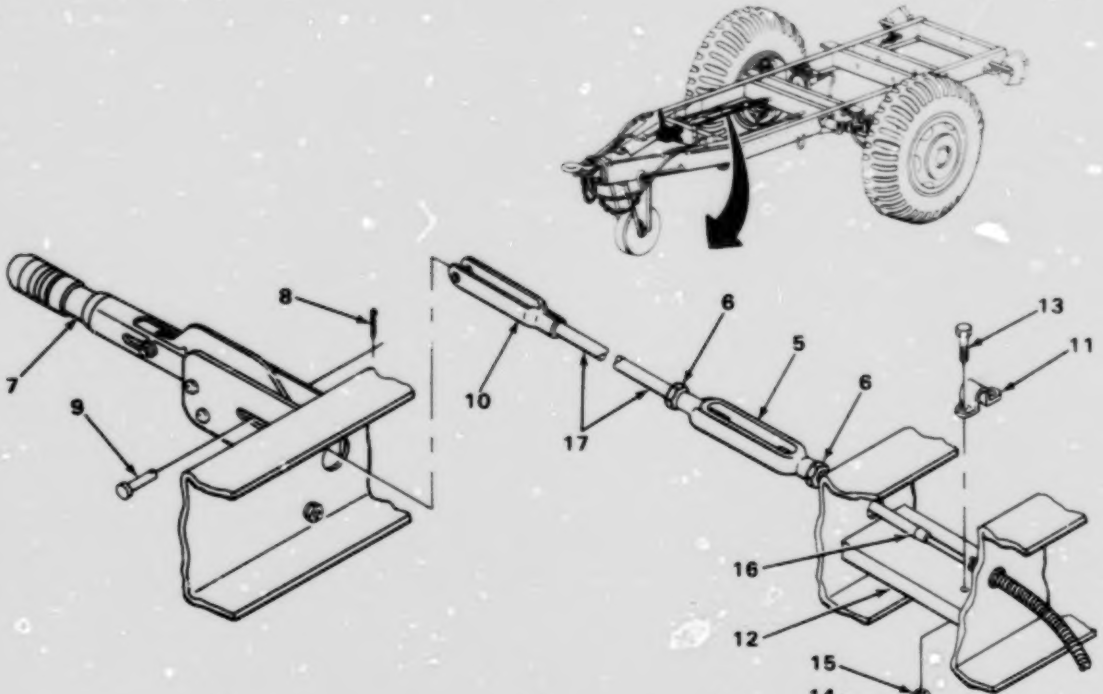
HANDBRAKE CABLE (ALL EXCEPT M107A1) – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
10. Handbrake cable (16) to rod (17)	Turnbuckle (5) and two nuts (6)	Install loosely.
11. Crossmember (12)	Bracket (11) and handbrake cable (16)	Place in position.
12. Bracket (11) to crossmember (12)	Two bolts (13), two nuts (14), and two lockwashers (15)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch open-end wrench, screw in and tighten.
13. Handbrake lever (7)	Cotter pin (8), clevis pin (9), and clevis (10)	a. Position clevis and insert clevis pin. b. Using diagonal-cutting pliers, install new cotter pin.



TA231056

HANDBRAKE CABLE (ALL EXCEPT M107A1) – CONTINUED

	LOCATION	ITEM	ACTION REMARKS

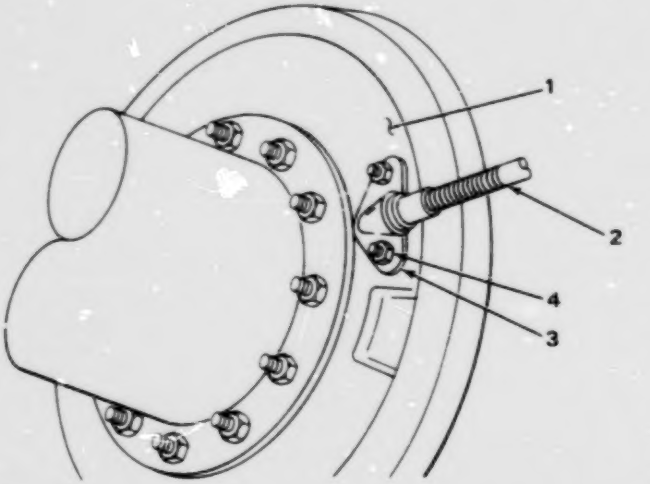
INSTALLATION – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
14.	Backing plate (1)	Handbrake cable (2)	Insert.

NOTE

For chassis models M103A1 and M103A2, proceed with step 16.

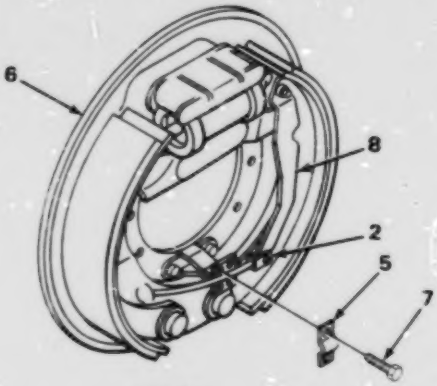
	LOCATION	ITEM	ACTION REMARKS
15.	Guide bracket (3) to backing plate (1)	Two nuts (4)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, tighten. **Proceed with step 17.**



	LOCATION	ITEM	ACTION REMARKS
16.	Bracket (5) to backing plate (6)	Two bolts (7)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, tighten.
17.	Brake lever (8)	Handbrake cable (2)	Connect.

TA231057

HANDBRAKE CABLE (ALL EXCEPT M107A1) – CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install hub and drum (page 4-102).
2. Adjust handbrake cable (page 4-51).

TASK ENDS HERE

HANDBRAKE CABLE ADJUSTMENT

This task covers:

a. Adjustment (all except M107A1) (page 4-52)
b. Adjustment, M107A1 (page 4-52)

INITIAL SETUP

Tools

Pliers, diagonal-cutting
Screwdriver, flat-tip, 3/8-inch
Wrench, open-end, 9/16-inch

Materials/Parts

Cotter pin

Equipment Condition

Service brake adjusted (page 4-56 or 4-62).

TA231058

HANDBRAKE CABLE ADJUSTMENT – CONTINUED

ADJUSTMENT (ALL EXCEPT M107A1)

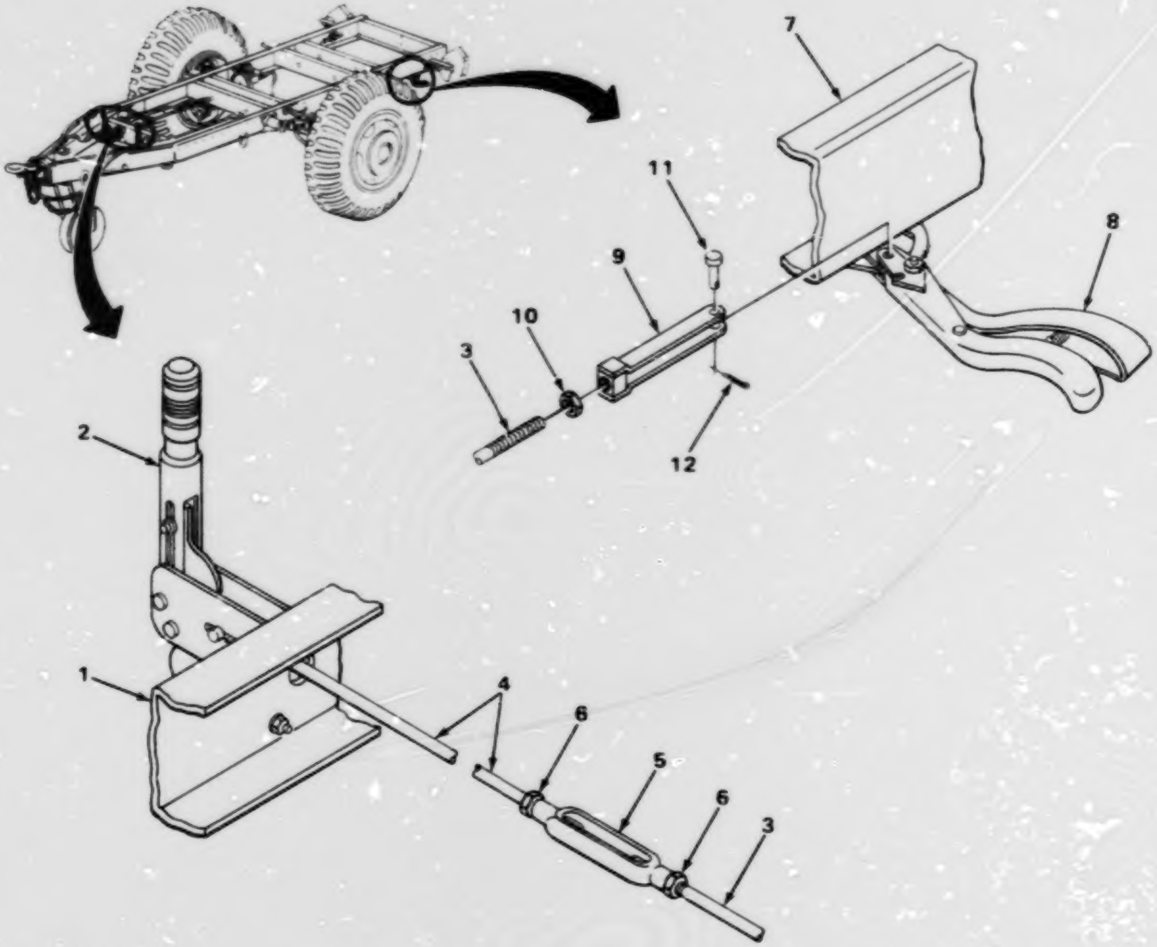
	LOCATION	ITEM	ACTION REMARKS
1.	Crossmember (1)	Handbrake lever (2)	Place in the released position as shown.
2.	Handbrake cable (3) to rod (4)	Turnbuckle (5) and two nuts (6)	Using 3/8-inch flat-tip screwdriver and 9/16-inch open-end wrench, hold turnbuckle and loosen nuts. **Do not permit cable to twist.**
3.		Turnbuckle (5)	Rotate, as required, to eliminate excess slack or tension. **When properly adjusted, handbrake lever should only require one-third of its full travel to apply handbrake.**
4.		Turnbuckle (5) and two nuts (6)	Using 3/8-inch flat-tip screwdriver and 9/16-inch open-end wrench, hold turnbuckle and tighten nuts. **Do not permit cable to twist.**
5.	Crossmember (1)	Handbrake lever (2) and handbrake cable (3)	Check for proper operation.

ADJUSTMENT, M107A1

	LOCATION	ITEM	ACTION REMARKS
6.	Rear side rail (7)	Handbrake lever (8)	Place in the released position as shown.
7.	Handbrake cable (3) to clevis (9)	Nut (10)	Using 9/16-inch open-end wrench, loosen.
8.	Clevis (9) to handbrake lever (2)	Clevis pin (11) and cotter pin (12)	Using diagonal-cutting pliers, remove. **Discard cotter pin.**
9.	Handbrake cable (3)	Clevis (9)	Turn clockwise to tighten or counterclockwise to loosen. **When properly adjusted, handbrake lever should only require one-third of its full travel to apply handbrake.**

HANDBRAKE CABLE ADJUSTMENT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
10.	Handbrake cable (3) to clevis (9)	Nut (10)	Using 9/16-inch open-end wrench, tighten.
11.	Handbrake lever (2)	Clevis (9)	Place in position.
12.	Clevis (9) to handbrake lever (2)	Clevis pin (11) and cotter pin (12)	Using diagonal-cutting pliers, put in. **Check for proper operation of handbrake.**



TASK ENDS HERE

TA231059

HANDBRAKE CABLE, M107A1

This task covers:

a. Removal (page 4-54)
b. Installation (page 4-55)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
Pliers, diagonal-cutting
Screwdriver, cross-tip, number two
Socket, 3/8-inch drive, 7/16-inch
Socket, 3/8-inch drive, 9/16-inch

Tools – Continued

Wrench, open-end, 9/16-inch

Equipment Condition

Hub and drum removed (page 4-102).

LOCATION	ITEM	ACTION REMARKS

REMOVAL

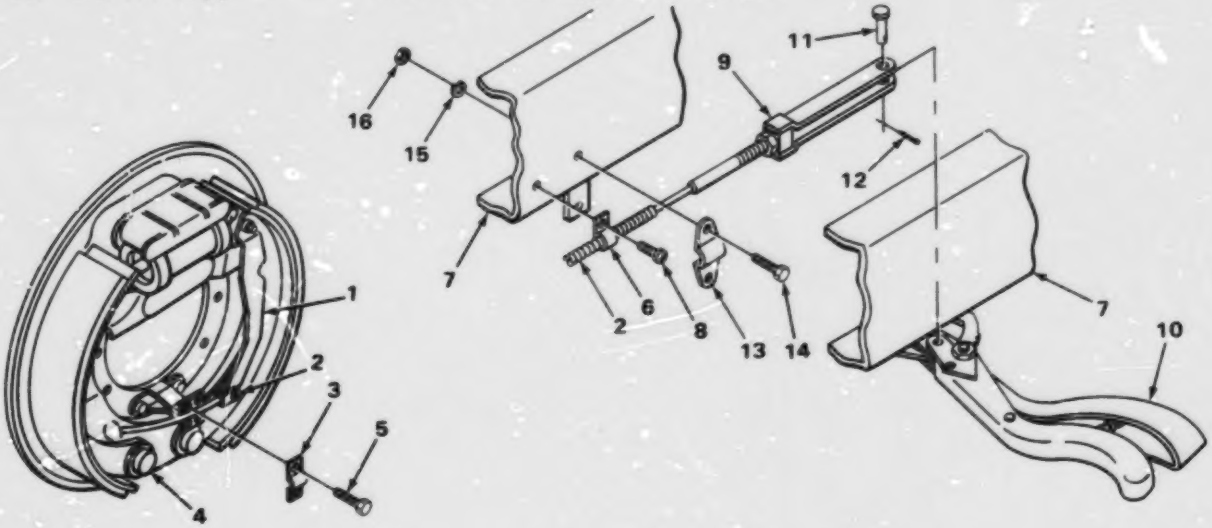
NOTE

Removal and installation procedures are for one handbrake cable only.

LOCATION	ITEM	ACTION REMARKS
1. Brake lever (1)	Handbrake cable (2)	Disconnect.
2. Bracket (3) to backing plate (4)	Two bolts (5)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, loosen.
3. Backing plate (4)	Handbrake cable (2)	Pull out.
4. Clip (6) to side rail (7)	Screw (8)	Using number two cross-tip screwdriver, remove.
5. Side rail (7)	Clip (6)	Take off.
6. Clevis (9) to handbrake lever (10)	Clevis pin (11) and cotter pin (12)	Using diagonal-cutting pliers, take out.
7. Bracket (13) to side rail (7)	Two bolts (14), two lockwashers (15), and two nuts (16)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, unscrew and take out.
8. Side rail (7)	Bracket (13) and handbrake cable (2)	Take off.

HANDBRAKE CABLE, M107A1 – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
9. Side rail (7)	Bracket (13) and handbrake cable (2)	Place in position.
10. Bracket (13) to side rail (7)	Two bolts (14), two lockwashers (15), and two nuts (16)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, screw in and tighten.
11. Side rail (7)	Clip (6)	Place in position.
12. Clip (6) to side rail (7)	Screw (8)	Using number two cross-tip screwdriver, screw in and tighten.
13. Backing plate (4)	Handbrake cable (2)	Place in position.
14. Bracket (3) to backing plate (4)	Two bolts (5)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, tighten.
15. Brake lever (1)	Handbrake cable (2)	Connect.



NOTE

FOLLOW-ON MAINTENANCE:

1. Install hub and drum (page 4-102).
2. Adjust handbrake cable (page 4-51).

TASK ENDS HERE

TA231060

SERVICE BRAKE ASSEMBLY, M103A1, M105A1, M103A2, AND M107A1

This task covers:

a. Disassembly (page 4-56)
b. Assembly (page 4-58)
c. Major Adjustment (page 4-60)
d. Minor Adjustment (page 4-61)

INITIAL SETUP

Tools

Gage, flat feeler, 0.010-inch
Gage, flat feeler, 0.020-inch
Handle, ratchet, 3/8-inch drive
Jack, hand, hydraulic, 5-ton
Jack, stand, 2-ton
Pliers, brake-repair
Pliers, needle-nose
Screwdriver, flat-tip, 3/8-inch
Socket, 3/8-inch drive, 9/16-inch
Wrench, box-end, 9/16-inch
Wrench, open-end, 7/16-inch

Tools – Continued

Wrench, open-end, 5/8-inch
Wrench, open-end, 1 1/8-inch

Materials/Parts

Cotter pins (two required)

Equipment Condition

Hub and drum removed (page 4-102).

LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY		

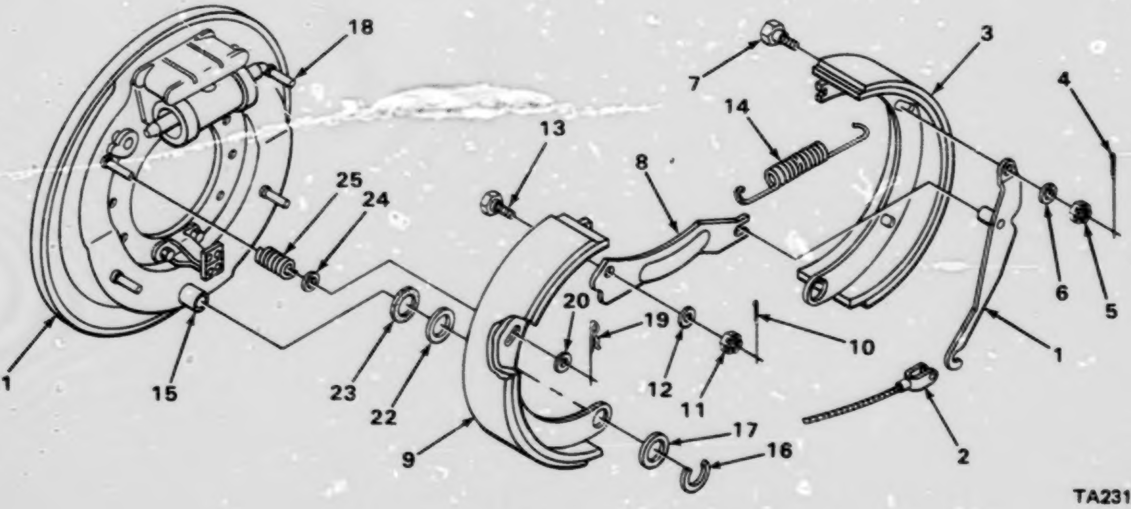
WARNING

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system. Clean dirt or mud from brake assemblies with a bristle brush or cloth and water.

LOCATION	ITEM	ACTION REMARKS
1. Brake lever (1)	Handbrake cable (2)	Disconnect.
2. Brake lever (1) to brakeshoe (3)	Cotter pin (4), nut (5), flat washer (6), and shoulder bolt (7)	a. Using needle-nose pliers, remove cotter pin. **Discard cotter pin.** b. Using 9/16-inch socket and ratchet handle with 3/8-inch drive, remove nut and washer.
3. Brakeshoe (3)	Brake lever (1)	Pull out.

SERVICE BRAKE ASSEMBLY, M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

LOCATION	ITEM	ACTION REMARKS
4. Strut (8) to brakeshoe (9)	Cotter pin (10), nut (11), flat washer (12), and shoulder bolt (13)	a. Using needle-nose pliers, remove cotter pin. **Discard cotter pin.** b. Using 9/16-inch socket and ratchet handle with 3/8-inch drive, remove nut and washer.
5. Brakeshoe (9)	Strut (8)	Take off.
6. Brakeshoes (3 and 9)	Return spring (14)	Using brake-repair pliers, remove.
7. Brakeshoes (3 and 9) to anchor pins (15)	Two slotted washers (16) and two flat washers (17)	Using 3/8-inch flat-tip screwdriver and needle-nose pliers, take off.
8. Brakeshoes (3 and 9) to guide pins (18)	Four lock pins (19) and four flat washers (20)	Using needle-nose pliers, take off.
9. Backing plate (21)	Brakeshoes (3 and 9)	Take off. **Inspect brakeshoes if they are to be reused (page 5-2).**
10. Anchor pins (15)	Two flat washers (22) and two felt washers (23)	Take off.
11. Guide pins (18)	Four flat washers (24) and four springs (25)	Take off.



TA231061

SERVICE BRAKE ASSEMBLY, M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY – CONTINUED			
12.	Anchor pins (1) to backing plate (2)	Two nuts (3) and two lockwashers (4)	Using 7/16-inch open-end and 1 1/8-inch open-end wrenches, hold anchor pins and remove nuts and washers.
13.	Backing plate (2)	Anchor pins (1)	Take out.
14.	Backing plate (2) to axle (5)	12 nuts (6), 12 screws (7), and 12 lockwashers (8)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, unscrew and take out.
15.	Axle (5)	Backing plate (2)	Pull off.
ASSEMBLY			
16.	Axle (5)	Backing plate (2)	Place in position.
17.	Backing plate (2) to axle (5)	12 nuts (6), 12 screws (7), and 12 lockwashers (8)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, screw in and tighten.
18.	Backing plate (2)	Anchor pins (1)	Insert.
19.	Anchor pins (1)	Two nuts (3) and two lockwashers (4)	Make hand tight.
20.	Guide pins (9)	Four flat washers (10) and four springs (11)	Place in position.
21.	Anchor pins (1)	Two flat washers (12) and two felt washers (13)	Place in position.
22.	Backing plate (2)	Two shoulder bolts (14) and brakeshoes (15 and 16)	Place in position.
23.	Brakeshoes (15 and 16) to guide pins (9)	Four lockpins (17) and four flat washers (18)	Using needle-nose pliers, put on.
24.	Brakeshoes (15 and 16) to anchor pins (1)	Two slotted washers (19) and two flat washers (20)	Place in position and, using needle-nose pliers, crimp retaining washer.

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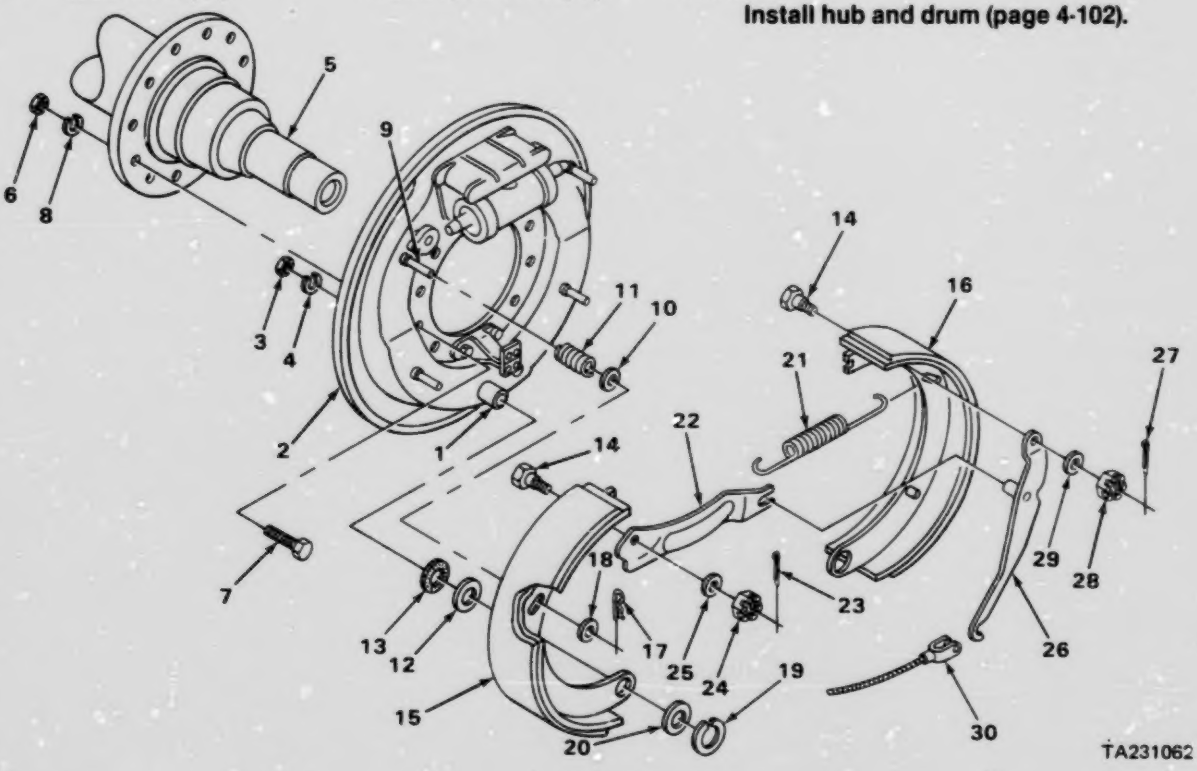
SERVICE BRAKE ASSEMBLY, M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
25.	Brakeshoes (15 and 16)	Return spring (21)	Using brake-repair pliers, place in position.
26.	Brakeshoe (15)	Strut (22)	Place in position.
27.	Strut (22) to brakeshoe (15)	New cotter pin (23), nut (24), and flat washer (25)	a. Using 9/16-inch socket and ratchet handle with 3/8-inch drive, install nut and washer, and aline cotter pinhole. b. Using needle-nose pliers, put in cotter pin.
28.	Brakeshoe (16)	Brake lever (26)	Place in position and aline with strut.
29.	Brake lever (26) to brakeshoe (16)	New cotter pin (27), nut (28), and flat washer (29)	a. Using 9/16-inch socket and ratchet handle with 3/8-inch drive, install nut and washer, and aline cotter pinhole. b. Using needle-nose pliers, put in cotter pin.
30.	Brake lever (26)	Handbrake cable (30)	Connect. **Install hub and drum (page 4-102).**



MAJOR ADJUSTMENT

NOTE

This procedure is used when new brakeshoes are installed. Do steps 31 thru 40 for each brakeshoe.

	LOCATION	ITEM	ACTION REMARKS
31.	Cover (1) to hub and drum (2)	Nut (3) and lockwasher (4)	Using 7/16-inch open-end wrench, remove.
32.	Hub and drum (2)	Cover (1)	Take off.
33.		Inspection hole (5)	Rotate to position 1 1/2 inch from anchor pin and adjacent to rear brakeshoe.
34.	Anchor pin (6)	Nut (7)	Using 7/16-inch open-end and 1 1/8-inch open-end wrenches, hold anchor pin and loosen nut.
35.	Hub and drum (2)	Inspection hole (5)	Insert a 0.010-inch flat feeler gage.
36.	Backing plate (8)	Anchor pin (6)	Using 7/16-inch open-end wrench, adjust brakeshoe until a slight drag is felt with 0.010-inch flat feeler gage. **Remove feeler gage.**
37.		Hub and drum (2)	Rotate to position inspection hole 1 1/2 inches from adjusting stud and adjacent to rear brakeshoe.
38.	Hub and drum (2)	Inspection hole (5)	Insert a 0.020-inch flat feeler gage.
39.	Backing plate (8)	Adjusting studs (9)	Using 5/8-inch open-end wrench, adjust brakeshoe until a slight drag is felt with 0.020-inch flat feeler gage. **Remove feeler gage.**
40.	Anchor pin (6)	Nut (7)	Using 7/16-inch open-end and 1 1/8-inch open-end wrenches, hold anchor pin and tighten nut.
41.	Hub and drum (2)	Cover (1), nut (3), and lockwasher (4)	Using 7/16-inch open-end wrench, install over inspection hole.

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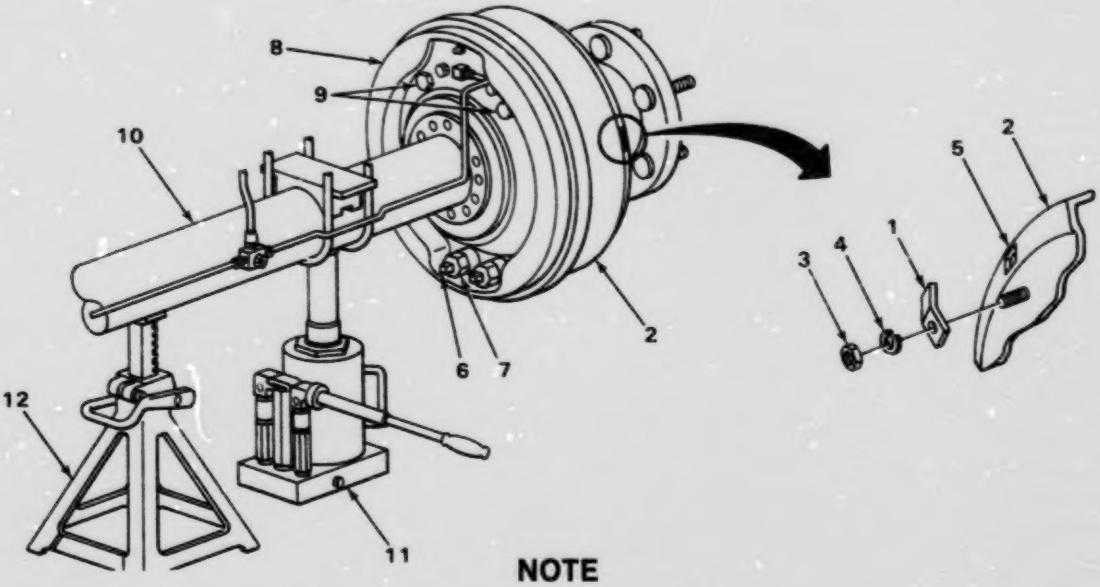
LOCATION	ITEM	ACTION REMARKS
MINOR ADJUSTMENT		

NOTE

Procedure given is for one wheel. Minor adjustments are performed only to compensate for normal brake lining wear.

LOCATION	ITEM	ACTION REMARKS
42. Axle (10)	5-ton hydraulic hand jack (11) and 2-ton jack stand (12)	a. Using 5-ton hydraulic hand jack, raise axle enough to permit wheel to spin freely. b. Position 2-ton jack stand under axle adjacent to jack.
43. Backing plate (8)	Two adjusting studs (9)	a. Using 5/8-inch open-end wrench, adjust brakeshoes until a slight drag is felt when wheel is spun. b. Back off adjustment so wheel spins freely.
44. Axle (10)	5-ton hydraulic hand jack (11) and 2-ton jack stand (12)	a. Remove 2-ton jack stand. b. Lower 5-ton hydraulic hand jack and remove.



NOTE

FOLLOW-ON MAINTENANCE: Install wheel and tire (page 3-4).

TASK ENDS HERE

TA231063

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SERVICE BRAKE ASSEMBLY, M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C

This task covers:

a. Disassembly (page 4-62)
b. Inspection criteria (page 4-64)
c. Assembly (page 4-64)
d. Adjustment (page 4-66)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
Pliers, brake-repair
Pliers, needle-nose
Ruler, 6-inch
Screwdriver, flat-tip, 3/8-inch
Socket, 3/8-inch drive, 7/16-inch
Socket, 3/8-inch drive, 9/16-inch

Tools – Continued

Wrench, open-end, 9/16-inch
Wrench, open-end, 5/8-inch

Equipment Condition

Hub and drum removed (page 4-107).

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
1. Pins (1, 2, 3, and 4)	Two springs (5)	Using brake-repair pliers, take off.
2. Brake lever (6)	Handbrake cable (7)	Unhook.
3. Pins (1 and 4)	Two slotted washers (8), two flat washers (9), and two spring washers (10)	Using needle-nose pliers, take off.
4. Pin (1)	Brake lever (6)	Slide off.
5. Pin (4)	Link (11)	Slide off.
6. Brakeshoe (12)	Capscrew (13), lock-washer (14), flat washer (15), and sleeve (16)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take off.
7. Brakeshoe (17)	Nut (18), lockwasher (19), flat washer (20), sleeve (21), and bolt (22)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take off.

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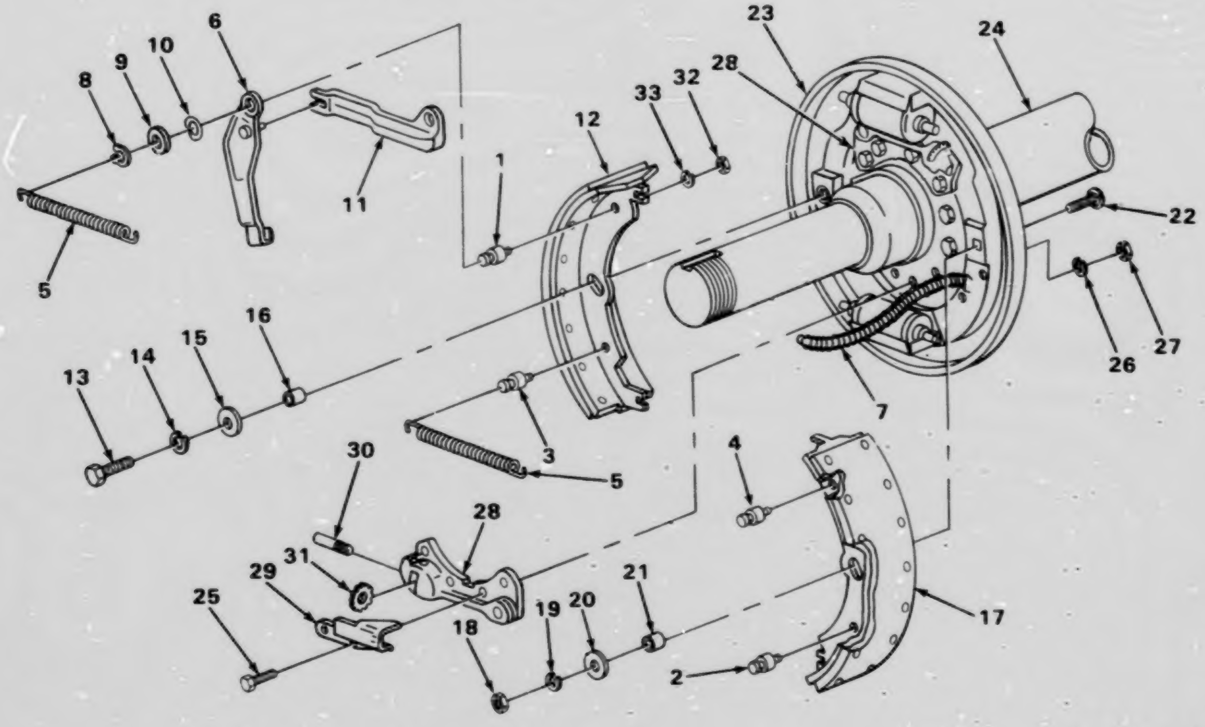
SERVICE BRAKE ASSEMBLY, M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

LOCATION	ITEM	ACTION REMARKS
8. Backing plate (23)	Brakeshoes (12 and 17)	Take off.
9. Axle (24)	12 bolts (25), 12 lockwashers (26), 12 nuts (27), two supports (28), cable ramp (29), and backing plate (23)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, unscrew and take out.
10. Two supports (28)	Brake adjusting screw (30) and slack adjusting wheel (31)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
11. Brakeshoes (12 and 17)	Pins (1, 2, 3, and 4), four nuts (32), and four lockwashers (33)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, take off.

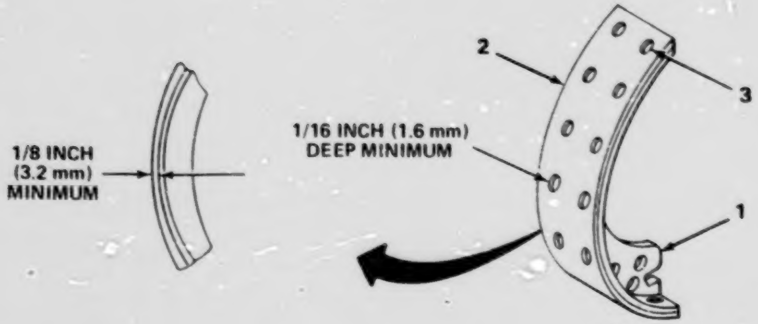


TA231064

SERVICE BRAKE ASSEMBLY, M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

INSPECTION CRITERIA

LOCATION	ITEM	ACTION REMARKS
12. Brakeshoe (1)	Lining (2) and rivets (3)	Inspect linings for cracks and, using a ruler, check for a minimum thickness of 1/8 inch (3.2 mm). **Rivets should be at least 1/16 inch (1.6 mm) below the surface of the lining.**



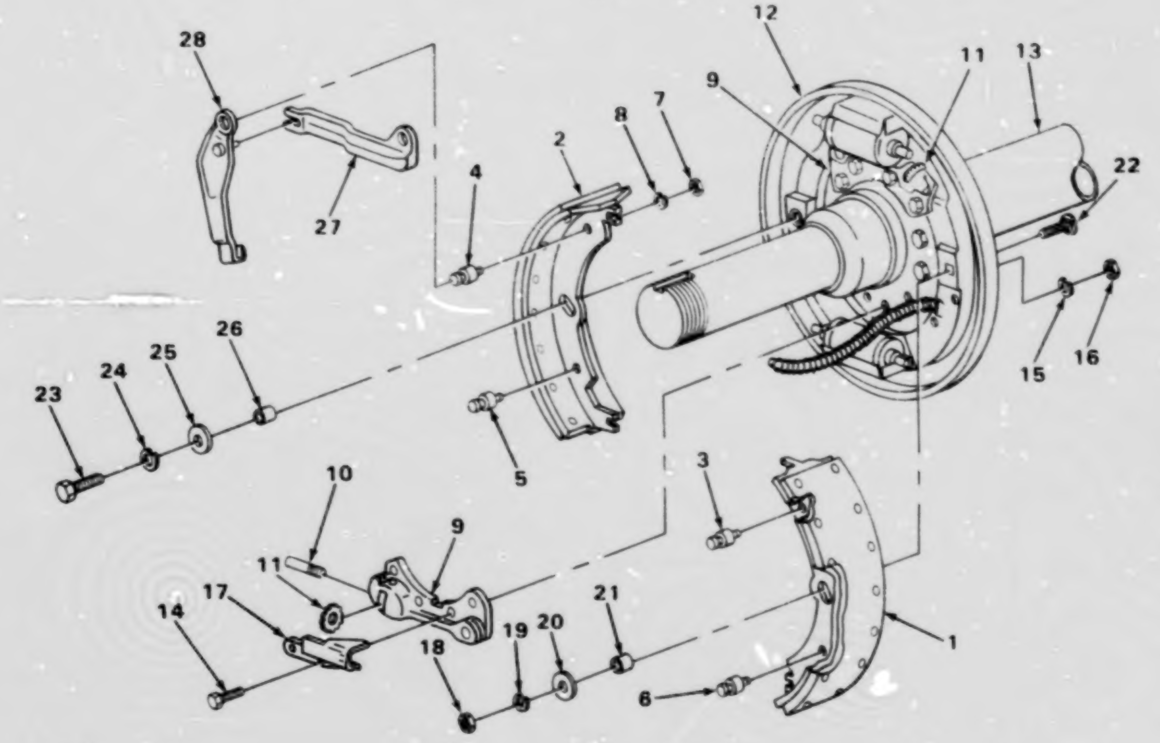
ASSEMBLY

LOCATION	ITEM	ACTION REMARKS
13. Brakeshoes (1 and 2)	Pins (3, 4, 5, and 6), four nuts (7), and four lockwashers (8)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, screw on and tighten.
14. Two supports (9)	Brake adjusting screw (10) and slack adjusting wheel (11)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
15. Backing plate (12) to axle (13)	12 bolts (14), 12 lockwashers (15), 12 nuts (16), two supports (9), cable ramp (17), and backing plate (12)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, put on.
16.	Brakeshoe (1)	Place in position.

TA231065

SERVICE BRAKE ASSEMBLY, M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

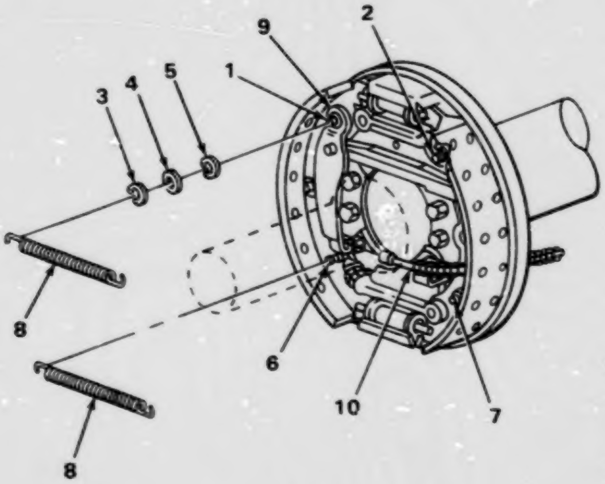
LOCATION	ITEM	ACTION REMARKS
17. Brakeshoe (1)	Nut (18), lockwasher (19), flat washer (20), sleeve (21), and bolt (22)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, put on.
18. Backing plate (12)	Brakeshoe (2)	Place in position.
19. Brakeshoe (2)	Capscrew (23), lockwasher (24), flat washer (25), and sleeve (26)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, put on.
20. Pin (3)	Link (27)	Slide on.
21. Pin (4)	Brake lever (28)	Slide on. **Pin on brake lever should engage slot in link.**



TA231066

SERVICE BRAKE ASSEMBLY, M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY – CONTINUED		
22. Pins (1 and 2)	Two slotted washers (3), two flat washers (4), and two spring washers (5)	Using needle-nose pliers, put in place.
23. Pins (1, 2, 6, and 7)	Two springs (8)	Using brake-repair pliers, put in place.
24. Brake lever (9)	Handbrake cable (10)	Hook into place.



NOTE

Install hub and drum (page 4-107).

ADJUSTMENT

NOTE

Adjust brakes when brakedrums are cool.

Procedure given is for one wheel.

TA231067

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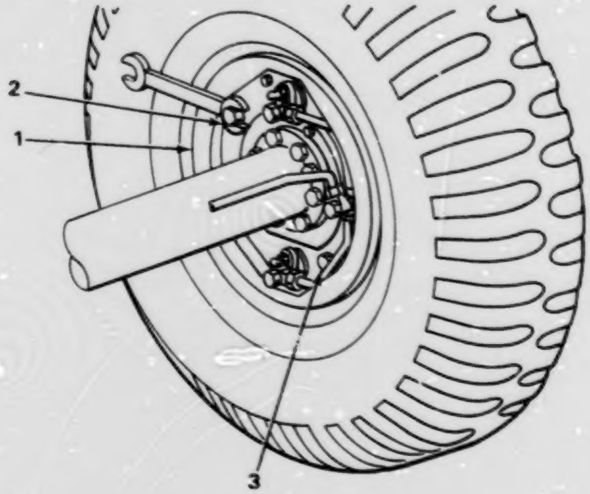
SERVICE BRAKE ASSEMBLY, M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
25.	Backing plate (1)	Upper shoe adjusting bolt (2)	a. Using 5/8-inch open-end wrench, turn counterclockwise until wheel locks. b. Back off just enough to allow wheel to turn freely.
26.		Lower shoe adjusting bolt (3)	Repeat step 1.



NOTE

FOLLOW-ON MAINTENANCE: Adjust handbrake (page 4-51).

TASK ENDS HERE

TA231068

MASTER CYLINDER, HYDRAULIC

This task covers:

a. Removal (page 4-68)
b. Installation (page 4-68)

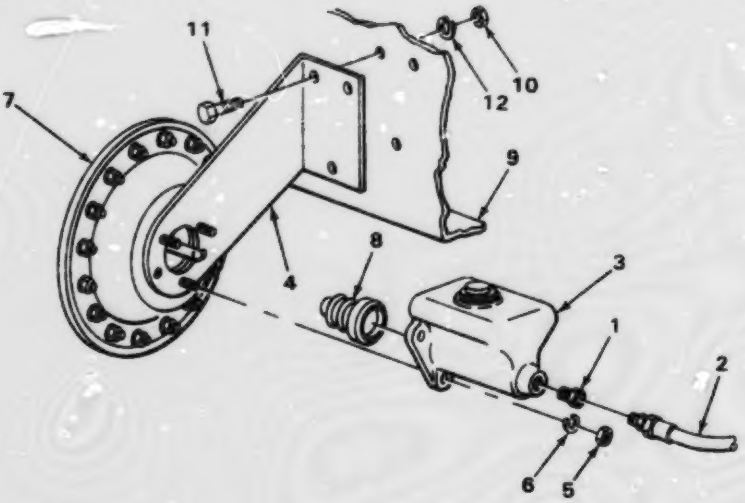
INITIAL SETUP

Tools	Materials/Parts
Handle, ratchet, 3/8-inch drive Socket, 3/8-inch drive, 9/16-inch Wrench, open-end, 7/16-inch Wrench, open-end, 9/16-inch Wrench, open-end, 5/8-inch	Brake fluid (item 3, appendix E)

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Reducer (1)	Hose (2)	Using 5/8-inch open-end wrench, hold reducer and, using 7/16-inch open-end wrench, unscrew and take off hose.
2. Master cylinder (3)	Reducer (1)	Using 5/8-inch open-end wrench, unscrew and take off.
3. Master cylinder (3) to bracket (4)	Three nuts (5) and three lock-washers (6)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take off.
4. Bracket (4)	Master cylinder (3) and air chamber (7)	Pull apart and take off.
5. Master cylinder (3)	Boot (8)	Pull off.
6. Bracket (4) to crossmember (9)	Three nuts (10), three screws (11), and three lock-washers (12)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, unscrew and take out.
7. Crossmember (9)	Bracket (4)	Take off.
INSTALLATION		
8. Crossmember (9)	Bracket (4)	Aline mounting holes and put in place.

MASTER CYLINDER, HYDRAULIC – CONTINUED

LOCATION	ITEM	ACTION REMARKS
9. Bracket (4) to crossmember (9)	Three nuts (10), three screws (11), and three lockwashers (12)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, unscrew and take out.
10. Master cylinder (3)	Boot (8)	Squeeze into position.
11. Bracket (4)	Master cylinder (3) and air chamber (7)	Place in position.
12. Master cylinder (3) to bracket (4)	Three nuts (5) and three lockwashers (6)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, screw on and tighten.
13. Master cylinder (3)	Reducer (1)	Using 5/8-inch open-end wrench, screw on.
14. Reducer (1)	Hose (2)	Using 5/8-inch open-end wrench, hold reducer and, using 7/16-inch open-end wrench, screw on and tighten hose.



TA231069

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MASTER CYLINDER, HYDRAULIC – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Bleed brakes (page 4-79).

TASK ENDS HERE

WHEEL CYLINDERS, HYDRAULIC

This task covers:

a. Removal (page 4-70)
b. Installation (page 4-71)

INITIAL SETUP

Tools	Equipment Condition
Handle, ratchet, 3/8-inch drive Socket, 3/8-inch drive, 1/2-inch Socket, 3/8-inch drive, 11/16-inch	Service brake disassembled (page 4-56 or 4-62).

REMOVAL

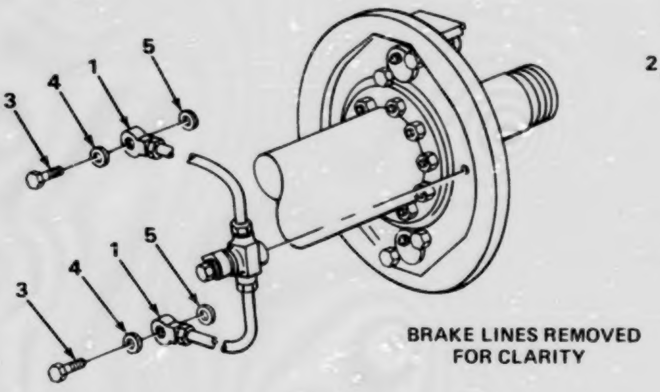
NOTE

Chassis models M103A1 and M103A2 have only one wheel cylinder for each service brake assembly. Chassis models M103A3, M103A3C, and M103A4 have two wheel cylinders for each service brake assembly. The procedure below is typical for all models.

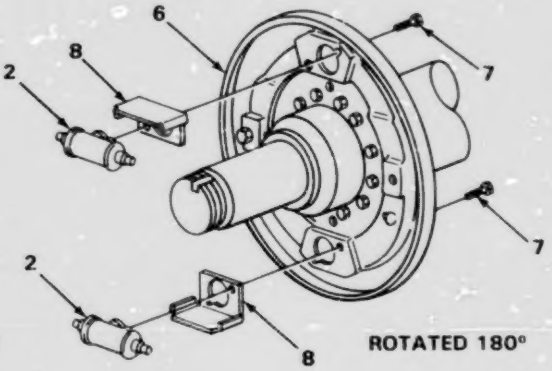
	LOCATION	ITEM	ACTION REMARKS
1.	Connector (1) to wheel cylinder (2)	Bolt (3), flat washer (4), and spacer (5)	Using 11/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
2.	Wheel cylinder (2) to backing plate (6)	Two screws (7)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
3.	Backing plate (6)	Wheel cylinder (2) and shield (8)	Take off.

WHEEL CYLINDERS, HYDRAULIC – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
4. Backing plate (6)	Wheel cylinder (2) and shield (8)	Place in position.
5. Wheel cylinder (2) to backing plate (6)	Two screws (7)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
6. Connector (1) to wheel cylinder (2)	Bolt (3), flat washer (4), and spacer (5)	Using 11/16-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.



BRAKE LINES REMOVED FOR CLARITY



ROTATED 180°

NOTE

FOLLOW-ON MAINTENANCE: Assemble service brake (page 4-56 or 4-62).

TASK ENDS HERE

TA231070

HYDRAULIC LINES, HOSES, AND FITTINGS

This task covers:

a. Hose replacement (page 4-72)
b. Axle lines and axle tee replacement (page 4-73)
c. Backing plate line replacement (page 4-74)
d. Reservoir line replacement (page 4-76)

INITIAL SETUP

Tools

Screwdriver, cross-tip, number two
Wrench, open-end, 7/16-inch
Wrench, open-end, 5/8-inch
Wrench, open-end, 15/16-inch

Materials/Parts

Brake lines
Connector
Flex hose

LOCATION	ITEM	ACTION REMARKS
HOSE REPLACEMENT		
1. Reducer (1)	Hose (2)	a. Using 5/8-inch open-end wrench, hold reducer. b. Using 7/16-inch open-end wrench, remove hose.
2. Connector (3)	Hose (2)	Using 15/16-inch open-end wrench, unscrew and take off. **Discard hose.**
3.	New hose (2)	Using 15/16-inch open-end wrench, screw in and tighten.
4. Reducer (1)	Hose (2)	a. Using 5/8-inch open-end wrench, hold reducer. b. Using 7/16-inch open-end wrench, install hose.

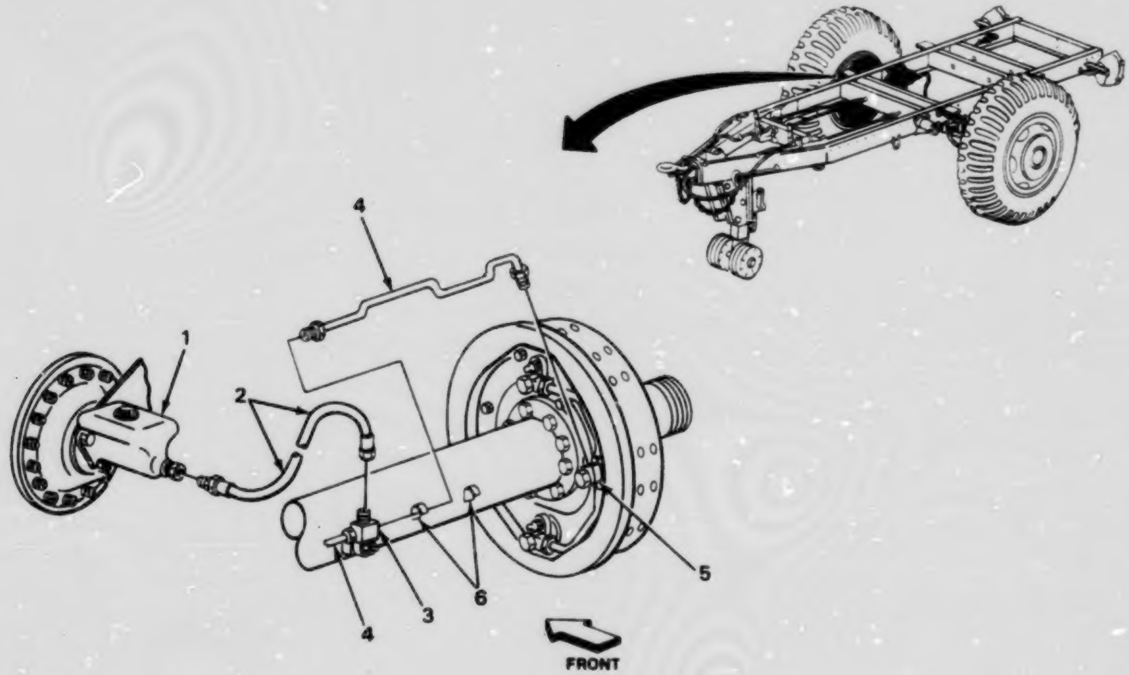
HYDRAULIC LINES, HOSES, AND FITTINGS – CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
AXLE LINES AND AXLE TEE REPLACEMENT		

NOTE

Procedure is for both axle lines.

5. Connector (3)	Two lines (4)	Using 7/16-inch open-end wrench, unscrew and take off.
6. Connector (5)	Two lines (4)	Using 7/16-inch open-end wrench, unscrew and take off.
7. Axle clips (6)	Two lines (4)	Take off. **Discard lines.**



TA231071

HYDRAULIC LINES, HOSES, AND FITTINGS – CONTINUED

AXLE LINES AND AXLE TEE REPLACEMENT – CONTINUED

	LOCATION	ITEM	ACTION **REMARKS**
8.	Connector (1) to axle (2)	Nut (3) and lockwasher (4)	Using 5/8-inch open-end wrench, take off.
9.	Axle (2)	Connector (1)	Take off. **Discard connector.**
10.		New connector (1)	Put in place.
11.	Connector (1) to axle (2)	Nut (3) and lockwasher (4)	Using 5/8-inch open-end wrench, put on.
12.		Two new lines (5)	Place in position.
13.	Connector (6)	Two lines (5)	Using 7/16-inch open-end wrench, screw in and tighten.
14.	Connector (1)	Two lines (5)	Using 7/16-inch open-end wrench, screw in and tighten.

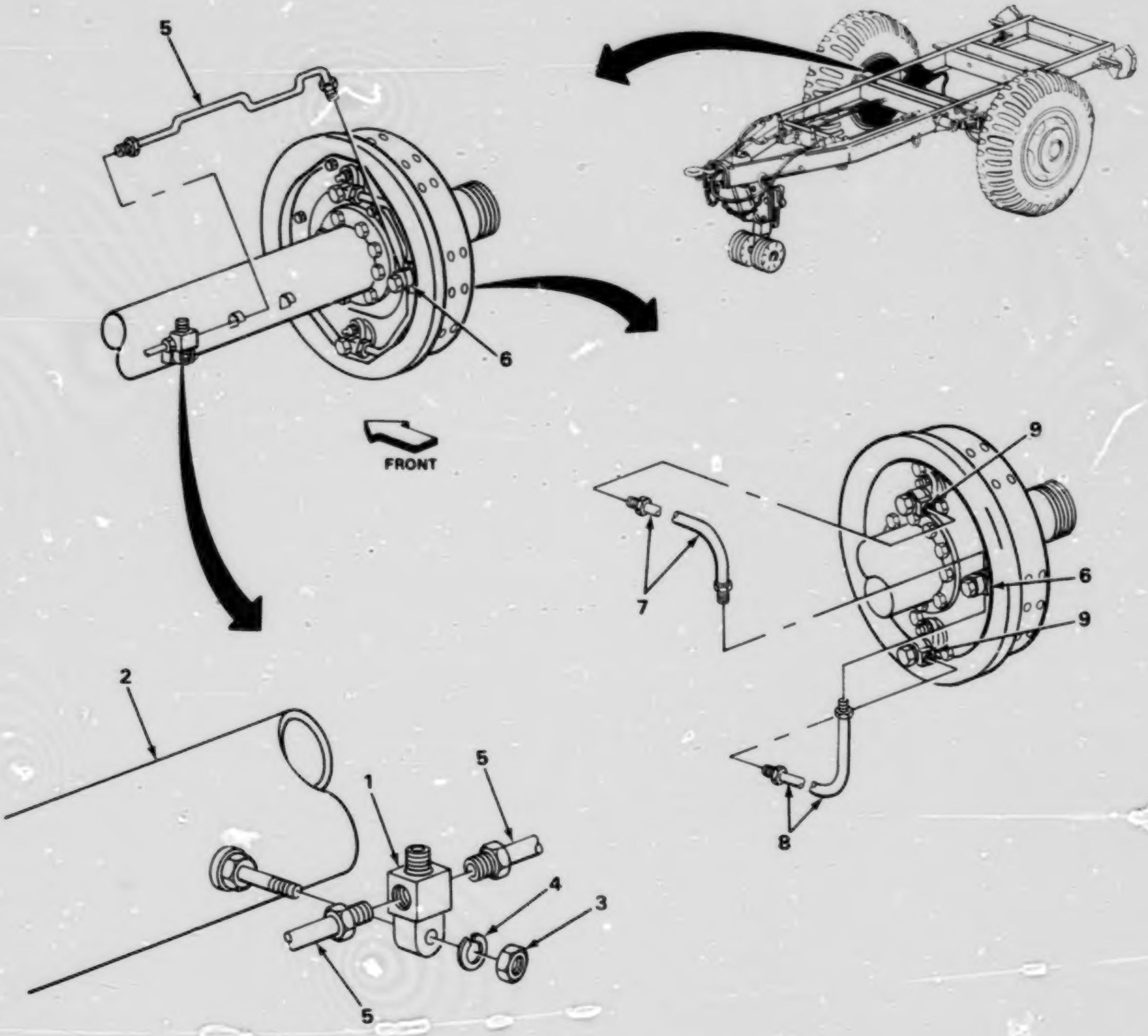
BACKING PLATE LINE REPLACEMENT

NOTE

Procedure is for both sides of trailer.

	LOCATION	ITEM	ACTION **REMARKS**
15.	Connector (6)	Lines (7 and 8)	Using 7/16-inch open-end wrench, screw in and tighten.
16.	Connectors (9)	Lines (7 and 8)	Using 7/16-inch open-end wrench, unscrew and take off. **Discard lines.**
17.		New lines (7 and 8)	Using 7/16-inch open-end wrench, screw in and tighten.
18.	Connector (6)	Lines (7 and 8)	Using 7/16-inch open-end wrench, screw in and tighten.

HYDRAULIC LINES, HOSES, AND FITTINGS – CONTINUED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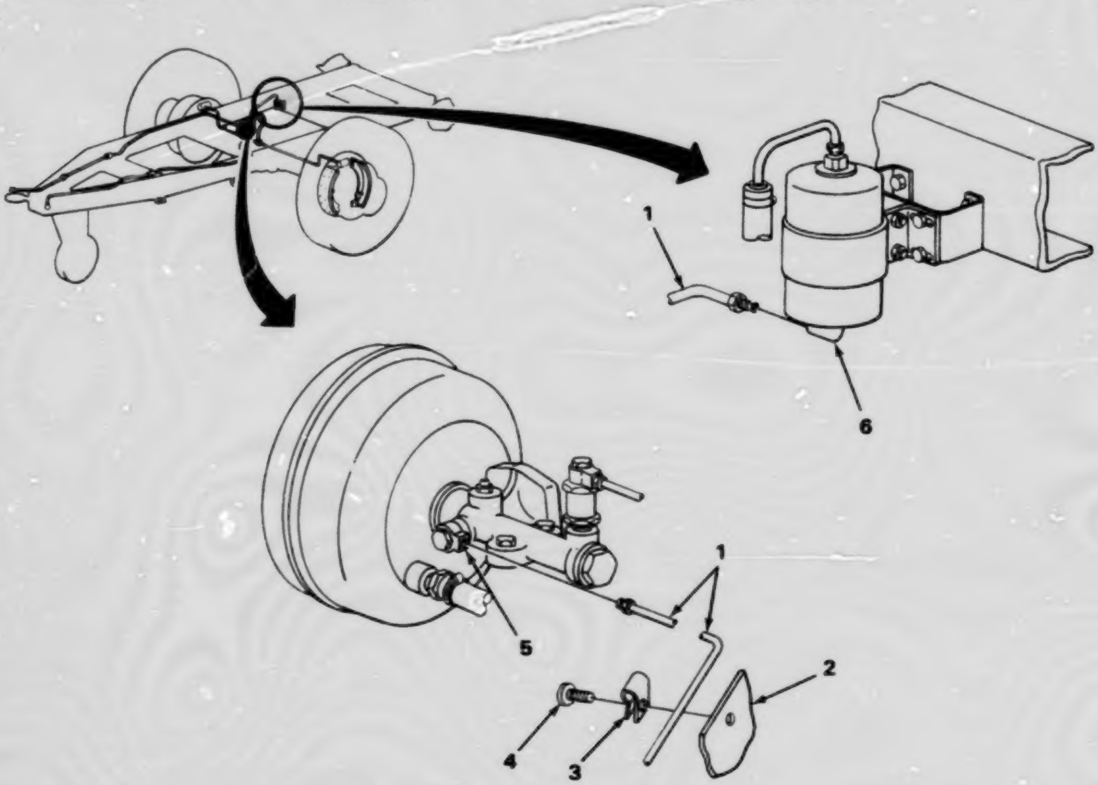
TA231072

HYDRAULIC LINES, HOSES, AND FITTINGS – CONTINUED

RESERVOIR LINE REPLACEMENT

	LOCATION	ITEM	ACTION REMARKS
19.	Line (1) to frame rail (2)	Clamp (3) and screw (4)	Using number two cross-tip screwdriver, unscrew and take off.
20.	Master cylinder (5)	Line (1)	Using 7/16-inch open-end wrench, unscrew and take out.
21.	Reservoir (6)	Line (1)	Using 7/16-inch open-end wrench, unscrew and take out. **Discard line.**
22.		New line (1)	Using 7/16-inch open-end wrench, screw in and tighten.
23.	Master cylinder (5)	Line (1)	Using 7/16-inch open-end wrench, screw in and tighten.
24.	Line (1) to frame rail (2)	Clamp (3) and screw (4)	Using number two cross-tip screwdriver, screw in and tighten.



TA231073

HYDRAULIC LINES, HOSES, AND FITTINGS – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Bleed brakes (page 4-79).

TASK ENDS HERE

HYDRAULIC TANK

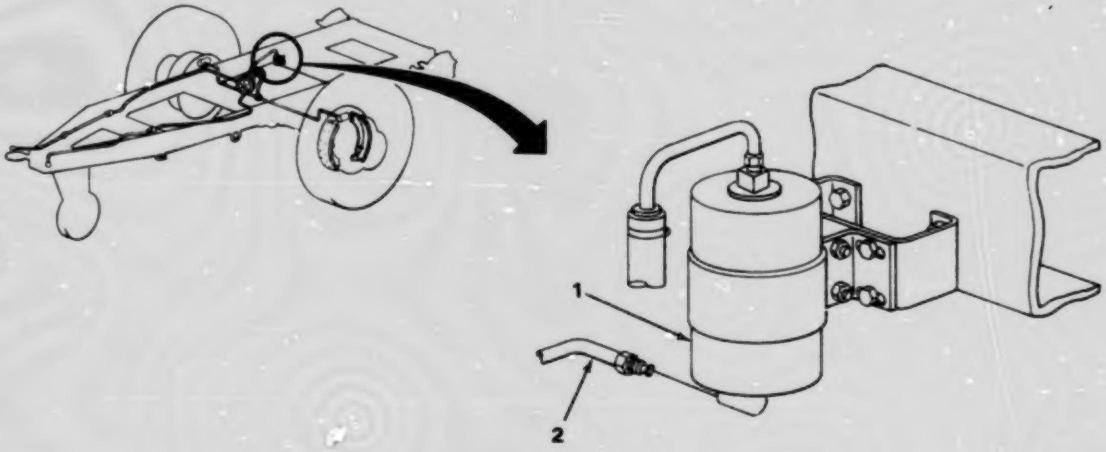
This task covers:

a. Removal (page 4-77)
b. Installation (page 4-78)
c. Servicing (page 4-78)

INITIAL SETUP

Tools	Materials/Parts
Handle, ratchet, 3/8-inch drive Socket, 3/8-inch drive, 7/16-inch Wrench, adjustable, 12-inch Wrench, open-end, 7/16-inch	Brake fluid (item 3, appendix E)

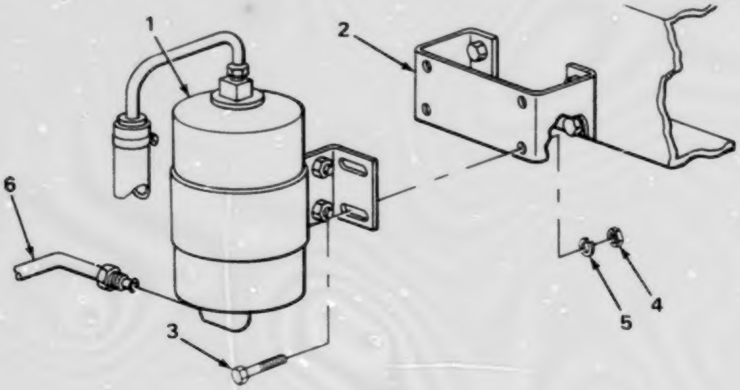
LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Tank (1)	Line (2)	Using 7/16-inch open-end wrench, unscrew and take out.



TA231074

HYDRAULIC TANK – CONTINUED

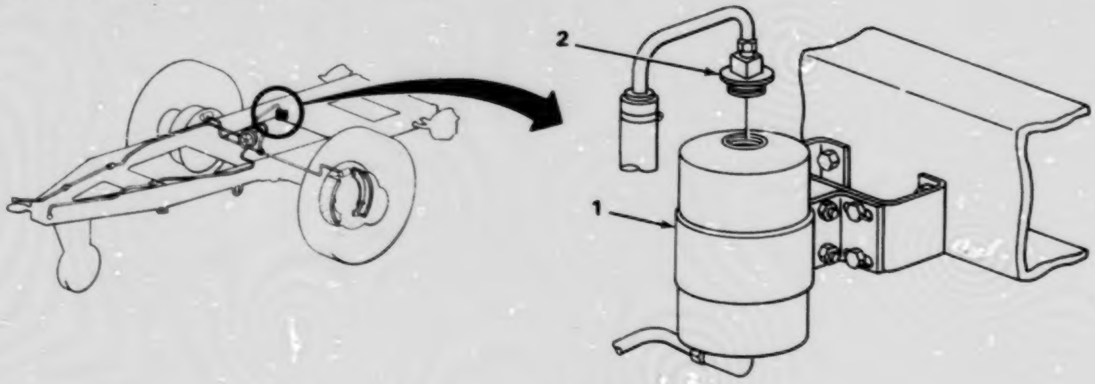
LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
2. Tank (1) to bracket (2)	Four screws (3), four nuts (4), and four lockwashers (5)	Using 7/16-inch socket, ratchet handle with 3/8-inch drive, and 7/16-inch open-end wrench, unscrew and take out.
3. Bracket (2)	Tank (1)	Take off.
INSTALLATION		
4. Bracket (2)	Tank (1)	Place in position.
5. Tank (1) to bracket (2)	Four screws (3), four nuts (4), and four lockwashers (5)	Using 7/16-inch socket, ratchet handle with 3/8-inch drive, and 7/16-inch open-end wrench, screw in and tighten.
6. Tank (1)	Line (6)	Using 7/16-inch open-end wrench, screw in and tighten.



LOCATION	ITEM	ACTION REMARKS
SERVICING		
7. Tank (1)	Cap (2)	Using 12-inch adjustable wrench, unscrew and take out.
8.	Tank (1)	Add brake fluid as required to obtain proper fluid level.
9. Tank (1)	Cap (2)	Using 12-inch adjustable wrench, screw in and tighten.

TA231075

HYDRAULIC TANK – CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Bleed brakes (page 4-79).

TASK ENDS HERE

HYDRAULIC SYSTEM BLEEDING

This task covers:

Manual bleeding (page 4-79)

INITIAL SETUP

Tools	Personnel Required
Wrench, open-end, 7/16-inch	Two
Materials/Parts	Equipment Condition
Brake fluid (item 3, appendix E) Container (item 1, appendix E) Plastic tubing (item 8, appendix E)	Trailer properly coupled to towing vehicle (page 2-12).

MANUAL BLEEDING

NOTE

Master cylinder or reservoir must be properly serviced prior to beginning this procedure. See Lubrication Chart (page 4-2).

Check fluid level in master cylinder or reservoir frequently during manual bleeding procedure and replenish as required. Failure to keep filled will allow air to enter the hydraulic system.

Procedure given below pertains to all models. Begin procedure with bleeder valve furthest from master cylinder. For vacuum-over-hydraulic system, proceed with step 1. For air-over-hydraulic system, proceed with step 4.

TA231076

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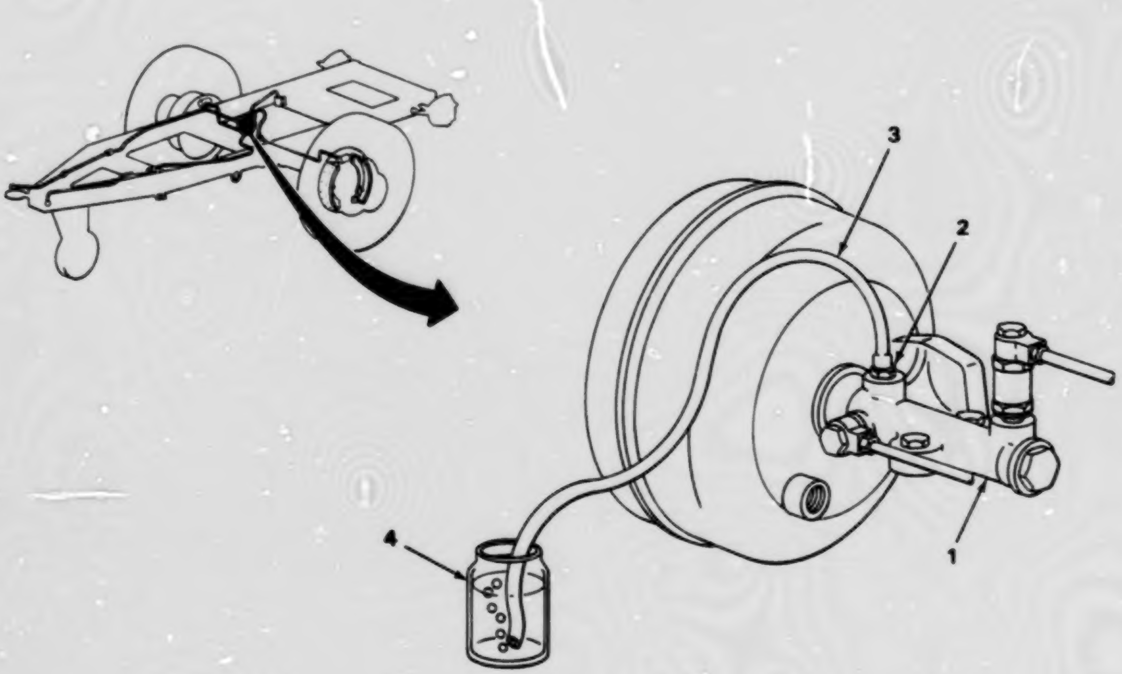
HYDRAULIC SYSTEM BLEEDING – CONTINUED

MANUAL BLEEDING – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
1.	Master cylinder (1)	Bleeder valve (2)	Connect plastic tube (3). **Tube should be approximately 18 inches (46 cm) long.**
2.		Container (4)	a. Fill approximately halfway with brake fluid. b. Place free end of tube into container. **Keep end of tube submersed in brake fluid throughout procedure.**
3.	Master cylinder (1)	Bleeder valve (2)	a. Have assistant pump brake pedal in towing vehicle slowly and smoothly. b. Using 7/16-inch open-end wrench, open. c. Allow fluid to flow into container. d. When fluid flow contains no air bubbles, close. e. Disconnect plastic tube.



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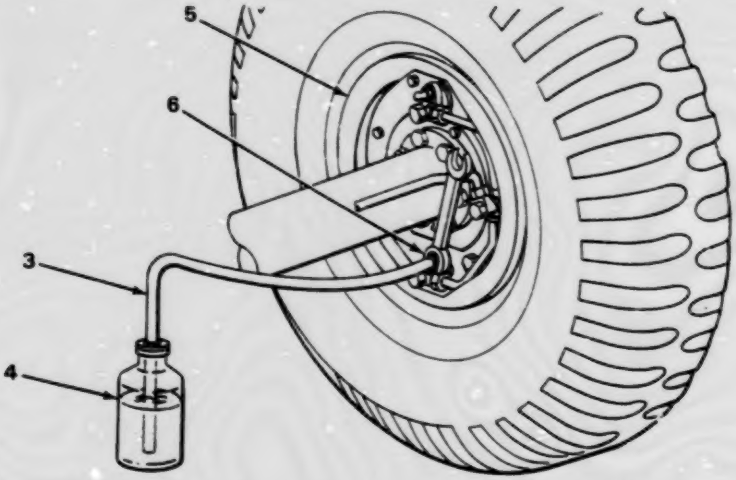
HYDRAULIC SYSTEM BLEEDING – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
4.	Backing plate (5)	Bleeder valve (6)	Connect plastic tube (3). **Tube should be approximately 18 inches (46 cm) long.**
5.		Container (4)	a. Fill approximately halfway with brake fluid. b. Place free end of tube into container. **Keep end of tube submerged in brake fluid throughout procedure.**
6.	Backing plate (5)	Bleeder valve (6)	a. Have assistant pump brake pedal in towing vehicle slowly and smoothly. b. Using 7/16-inch open-end wrench, open. c. Allow fluid to flow into container. d. When fluid flow contains no air bubbles, close. e. Disconnect plastic tube.



NOTE

FOLLOW-ON MAINTENANCE: Service master cylinder or reservoir. See Lubrication Chart (page 4-2).

TASK ENDS HERE

TA231078

VACUUM CHAMBER AND MASTER CYLINDER

This task covers:

a. Removal (page 4-82)
b. Installation (page 4-84)

INITIAL SETUP

Tools

- Handle, ratchet, 3/8-inch drive
- Screwdriver, flat-tip, 3/8-inch
- Socket, 3/8-inch drive, 9/16-inch
- Socket, 3/8-inch drive, 5/8-inch
- Socket, 3/8-inch drive, 11/16-inch

Tools – Continued

- Socket, 3/8-inch drive, 3/4-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 1 3/8-inch

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Vacuum hoses (1) to cylinder (2)	Two clamps (3)	Using 3/8-inch flat-tip screwdriver, loosen and slide back.
2. Fittings (4)	Two vacuum hoses (1)	Take off.
3. Cylinder (2)	Two fittings (4)	Using 11/16-inch open-end wrench, unscrew and take out.
4. Connector (5) to valve (6)	Bolt (7) and flat washer (8)	Using 11/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
5. Valve (6)	Connector (5) and flat washer (9)	Take off.
6. Cylinder (2)	Valve (6) and flat washer (10)	Using 1 3/8-inch open-end wrench, unscrew and take out.
7. Connector (11) to cylinder (2)	Bolt (12) and flat washer (13)	Using 11/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
8. Cylinder (2)	Connector (11) and flat washer (14)	Take off.
9. Brace (15) to cylinder (2)	Nut (16) and lockwasher (17)	Using 3/4-inch socket and ratchet handle with 3/8-inch drive, unscrew and take off.

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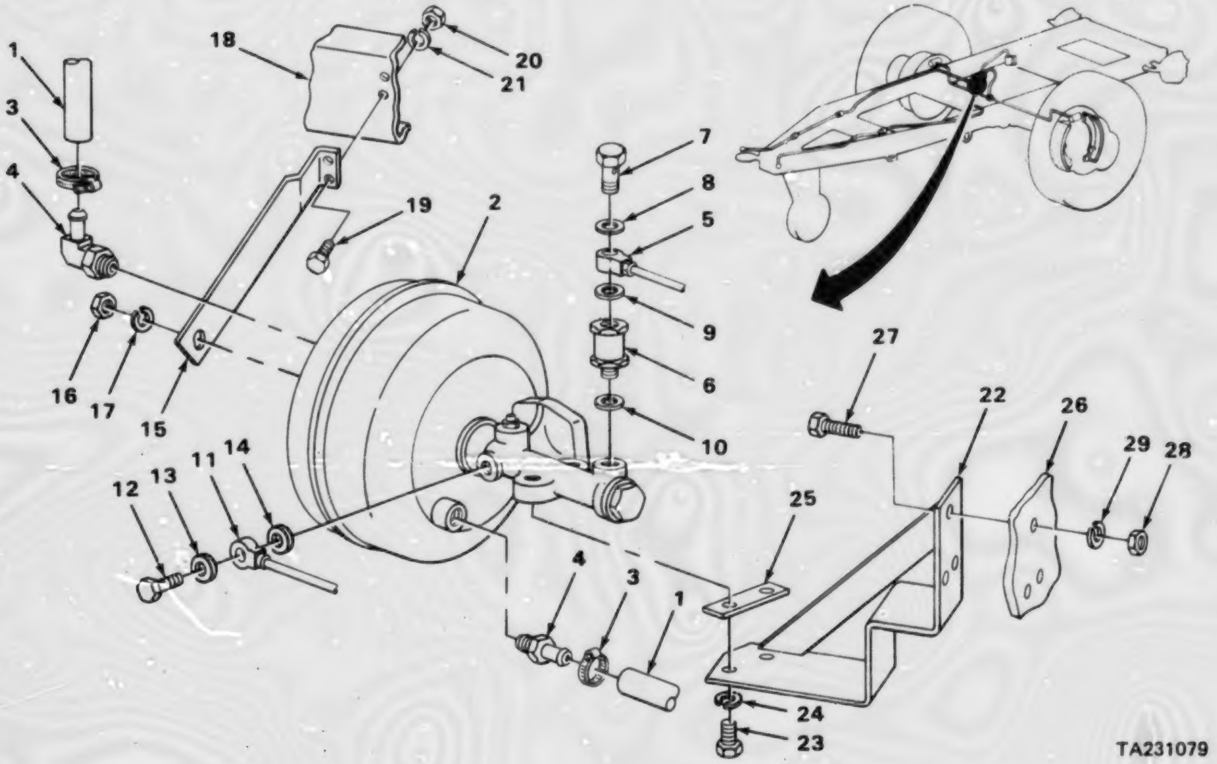
VACUUM CHAMBER AND MASTER CYLINDER – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
10.	Brace (15) to crossmember (18)	Two screws (19), two nuts (20), and two lockwashers (21)	Using 9/16-inch open-end wrench, 9/16-inch socket, and ratchet handle with 3/8-inch drive, unscrew and take out.
11.	Crossmember (18) to cylinder (2)	Brace (15)	Take off.
12.	Cylinder (2) to mounting bracket (22)	Two screws (23) and two lockwashers (24)	Using 5/8-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
13.	Mounting bracket (22)	Cylinder (2) and spacer (25)	Take off.
14.	Crossmember (26)	Three screws (27), three nuts (28), and three lockwashers (29)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, unscrew and take out.
15.		Mounting bracket (22)	Take off.



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VACUUM CHAMBER AND MASTER CYLINDER – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION			
16.	Crossmember (1)	Mounting bracket (2)	Place in position.
17.		Three screws (3), three nuts (4), and three lock-washers (5)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, screw in and tighten.
18.	Bracket (2)	Cylinder (6) and spacer (7)	Place in position.
19.	Cylinder (6) to mounting bracket (2)	Two screws (8) and two lockwashers (9)	Using 5/8-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
20.	Crossmember (10) to cylinder (6)	Brace (11)	Place in position.
21.	Brace (11) to crossmember (10)	Two screws (12), two nuts (13), and two lockwashers (14)	Using 9/16-inch open-end wrench, 9/16-inch socket, and ratchet handle with 3/8-inch drive, screw in and tighten.
22.	Brace (11) to cylinder (6)	Nut (15) and lockwasher (16)	Using 3/4-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
23.	Cylinder (6)	Connector (17) and flat washer (18)	Place in position.
24.	Connector (17) to cylinder (6)	Bolt (19) and flat washer (20)	Using 11/16-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
25.	Cylinder (6)	Valve (21) and flat washer (22)	Using 1 3/8-inch open-end wrench, screw in and tighten.
26.	Valve (21)	Connector (23) and flat washer (24)	Place in position.
27.	Connector (23) to valve (21)	Bolt (25) and flat washer (26)	Using 11/16-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
28.	Cylinder (6)	Two fittings (27)	Using 11/16-inch open-end wrench, screw in and tighten.
29.	Fittings (27)	Two vacuum hoses (28)	Put on.

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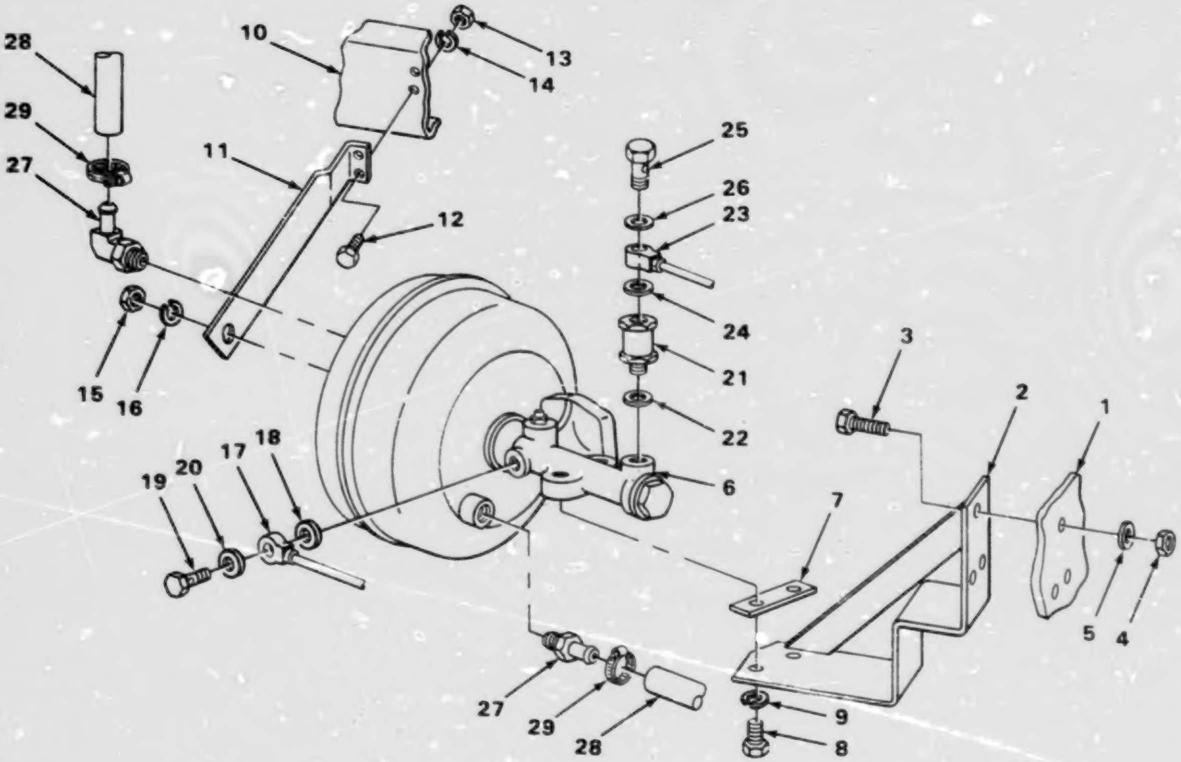
VACUUM CHAMBER AND MASTER CYLINDER – CONTINUED

LOCATION	ITEM	ACTION REMARKS
30. Vacuum hoses (28) to cylinder (6)	Two clamps (29)	Place in position and, using 3/8-inch flat-tip screwdriver, tighten.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NOTE

FOLLOW-ON MAINTENANCE: Bleed brakes (page 4-79).

TASK ENDS HERE

VACUUM QUICK COUPLING

This task covers:

a. Removal (page 4-86)
b. installation (page 4-86)

TA231080

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VACUUM QUICK COUPLING – CONTINUED

INITIAL SETUP

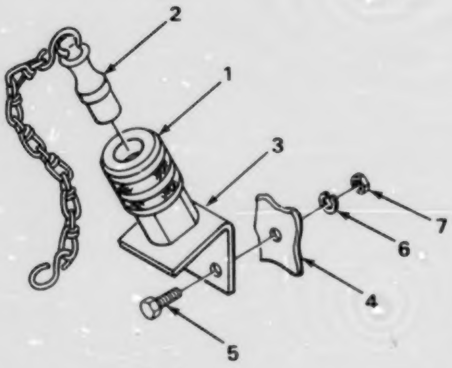
Tools

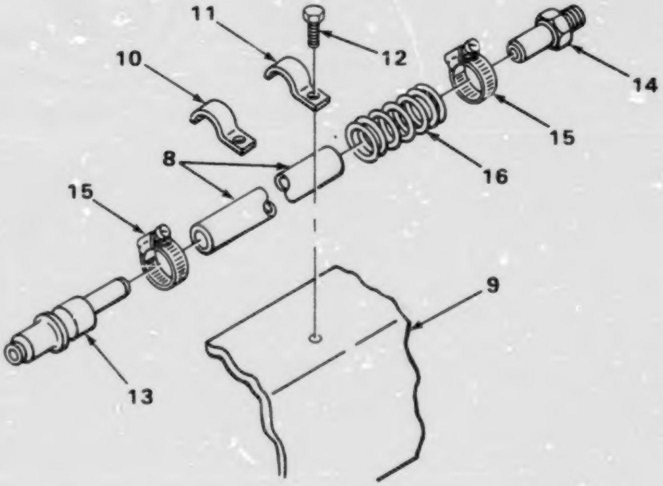
Screwdriver, flat-tip, 3/8-inch
Wrench, open-end, 1/2-inch
(two required)

	LOCATION	ITEM	ACTION **REMARKS**
REMOVAL			
1.	Dummy coupling (1)	Plug and chain (2)	Take out.
2.	Dummy coupling with bracket (3) to crossmember (4)	Two screws (5), two lockwashers (6), and two nuts (7)	Using two 1/2-inch open-end wrenches, unscrew and take out.
3.	Crossmember (4)	Dummy coupling with bracket (3)	Take off.
4.	Hose (8) to drawbar (9)	Two clamps (10 and 11) and two screws (12)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
5.	Quick coupling (13) to adapter (14)	Two hose clamps (15)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
6.	Adapter (14)	Quick coupling (13), hose (8), and spring (16)	Take off.
INSTALLATION			
7.	Adapter (14)	Quick coupling (13), hose (8), and spring (16)	Put on.
8.	Quick coupling (13) to adapter (14)	Two hose clamps (15)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
9.	Hose (8) to drawbar (9)	Two clamps (10 and 11) and two screws (12)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
10.	Crossmember (4)	Dummy coupling with bracket (3)	Put in place.

VACUUM QUICK COUPLING – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
11.	Dummy coupling with bracket (3) to crossmember (4)	Two screws (5), two lockwashers (6), and two nuts (7)	Using two 1/2-inch open-end wrenches, screw in and tighten.
12.	Dummy coupling (1)	Plug and chain (2)	Put in.





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VACUUM LINES, HOSES, AND FITTINGS

This task covers:

a. Intervehicular vacuum hose replacement (page 4-88)
b. Vacuum line replacement (page 4-88)
c. Coupling replacement (page 4-90)

INITIAL SETUP

Tools

Screwdriver, flat-tip, 3/8-inch
Wrench, open-end, 11/16-inch
Wrench, open-end, 7/8-inch
Wrench, open-end, 1 1/4-inch
Wrench, open-end, 1 3/8-inch

Materials/Parts

Coupling
Intervehicular hose
Vacuum line

Equipment Condition

Vacuum quick coupling removed (page 4-85).

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VACUUM LINES, HOSES, AND FITTINGS – CONTINUED

INTERVEHICULAR VACUUM HOSE REPLACEMENT

NOTE

The procedure given is typical for both intervehicular vacuum hoses.

	LOCATION	ITEM	ACTION REMARKS
1.	Intervehicular hose (1) to drawbar (2)	Two clamps (3) and two screws (4)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
2.	Coupling (5)	Intervehicular hose (1)	Using 7/8-inch open-end wrench, take off end.
3.		New intervehicular hose (1)	Using 7/8-inch open-end wrench, screw on and tighten.
4.	Intervehicular hose (1) to drawbar (2)	Two clamps (3) and two screws (4)	Using 3/8-inch flat-tip screwdriver, screw on and tighten.

VACUUM LINE REPLACEMENT

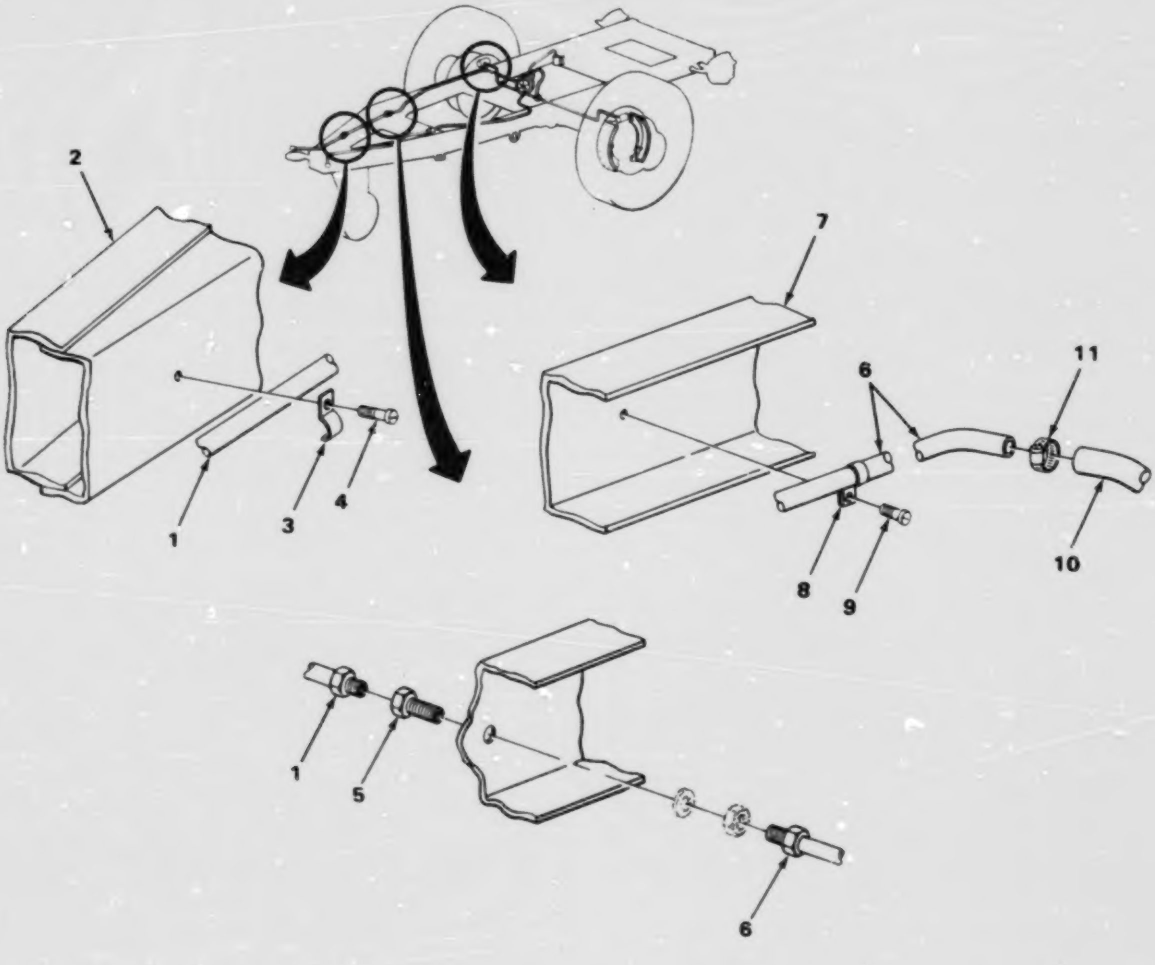
NOTE

The procedure given below is for either vacuum line. The line on the right side of the trailer has three clamps, and the line on the left side of the trailer has four clamps.

	LOCATION	ITEM	ACTION REMARKS
5.	Line (6) to frame rail (7)	Clamps (8) and screws (9)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
6.	Coupling (5)	Line (6)	Using 11/16-inch open-end wrench, unscrew and take off.
7.	Hose (10) to line (6)	Clamp (11)	Using 3/8-inch flat-tip screwdriver, loosen and slide back.
8.	Hose (10)	Line (6)	Take off. **Discard line.**
9.		New line (6)	Put in place.
10.	Hose (10) to line (6)	Clamp (11)	Place in position and, using 3/8-inch flat-tip screwdriver, tighten.

VACUUM LINES, HOSES, AND FITTINGS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
11.	Coupling (5)	Line (6)	Using 11/16-inch open-end wrench, screw on and tighten.
12.	Line (6) to frame rail (7)	Clamps (8) and screws (9)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.



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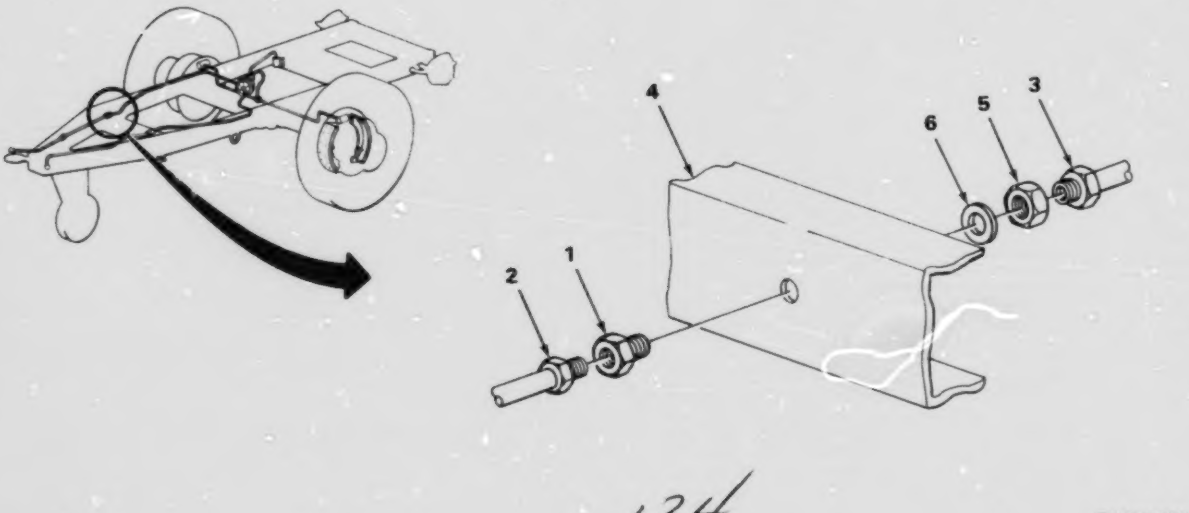
VACUUM LINES, HOSES, AND FITTINGS – CONTINUED

COUPLING REPLACEMENT

	LOCATION	ITEM	ACTION **REMARKS**
13.	Coupling (1)	Intervehicular hose (2)	Take off (page 4-88).
14.		Vacuum line (3)	Using 11/16-inch open-end wrench, unscrew and take out.
15.	Coupling (1) to crossmember (4)	Nut (5) and flat washer (6)	a. Using 1 1/4-inch open-end wrench, hold coupling. b. Using 1 3/8-inch open-end wrench, take off nut.
16.	Crossmember (4)	Coupling (1)	Take off. **Discard coupling.**
17.		New coupling (1)	Place in position.
18.	Coupling (1) to crossmember (4)	Nut (5) and flat washer (6)	a. Using 1 1/4-inch open-end wrench, hold coupling. b. Using 1 3/8-inch open-end wrench, screw in and tighten nut.
19.	Coupling (1)	Vacuum line (3)	Using 11/16-inch open-end wrench, screw in and tighten.
20.		Intervehicular hose (2)	Put on (page 4-88).



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VACUUM LINES, HOSES, AND FITTINGS – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Install vacuum quick coupling (page 4-85).

TASK ENDS HERE

AIRBRAKE CHAMBER

This task covers:

a. Removal (page 4-91)
b. Installation (page 4-92)

INITIAL SETUP

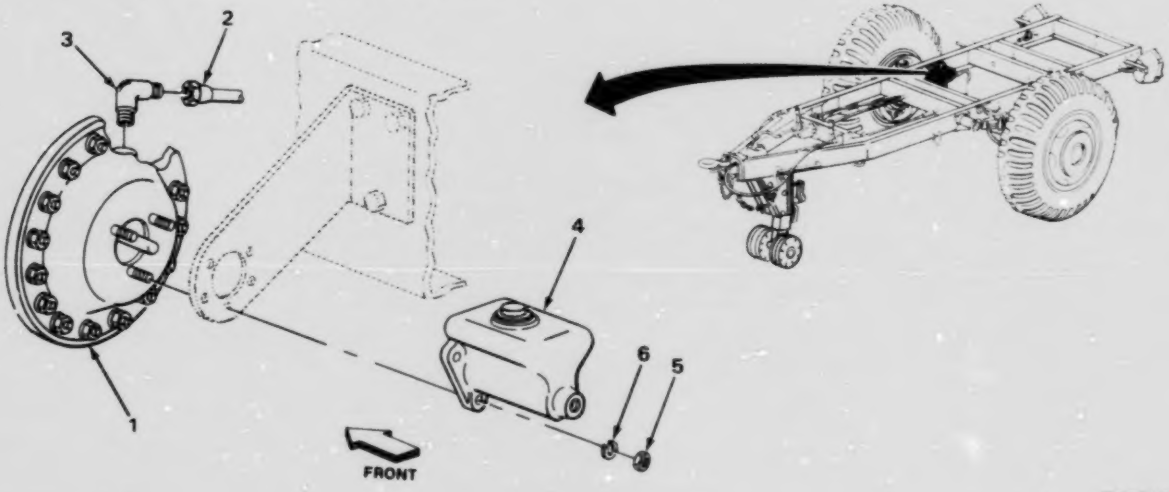
Tools

Handle, ratchet, 3/8-inch drive
Socket, 3/8-inch drive, 9/16-inch

Tools – Continued

Wrench, open-end, 5/8-inch

	LOCATION	ITEM	ACTION **REMARKS**
	REMOVAL		
1.	Airbrake chamber (1)	Tube (2) and adapter (3)	Using 5/8-inch open-end wrench, unscrew and take off.
2.	Master cylinder (4) to airbrake chamber (1)	Three nuts (5) and three lock-washers (6)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take off.



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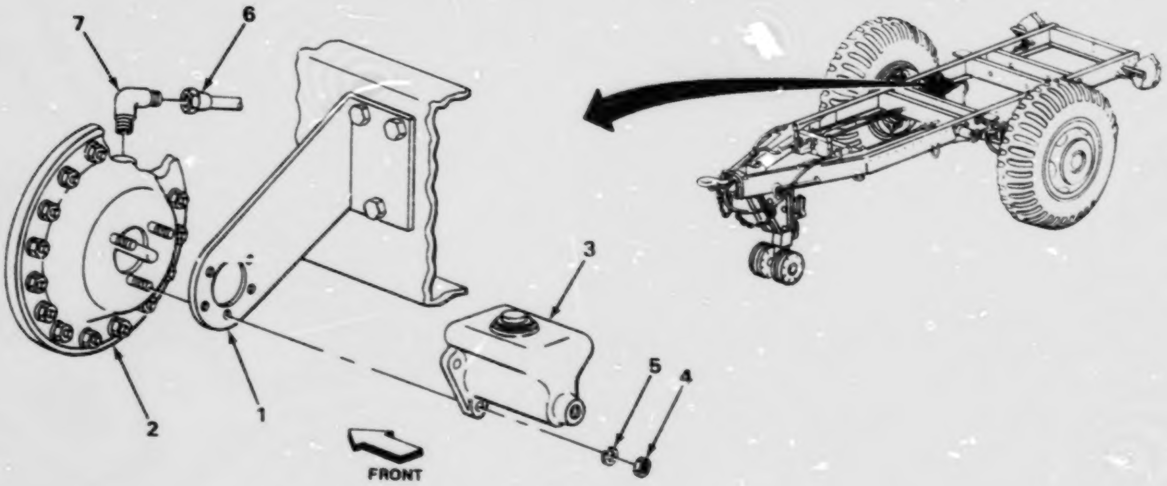
AIRBRAKE CHAMBER – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
CAUTION When the airbrake chamber is removed, the master cylinder must be supported. Damage to hydraulic brake line could result.		
3. Mounting bracket (1)	Airbrake chamber (2)	Take off.
INSTALLATION		
4. Mounting bracket (1)	Airbrake chamber (2)	Place in position.
5. Master cylinder (3) to airbrake chamber (2)	Three nuts (4) and three lock-washers (5)	Using 9/16-inch socket and ratchet handle with 3/8-inch drive, screw on and tighten.
6. Airbrake chamber (2)	Tube (6) and adapter (7)	Using 5/8-inch open-end wrench, screw on and tighten.



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RELAY VALVE

This task covers:

a. Removal (page 4-93)
b. Installation (page 4-94)

INITIAL SETUP

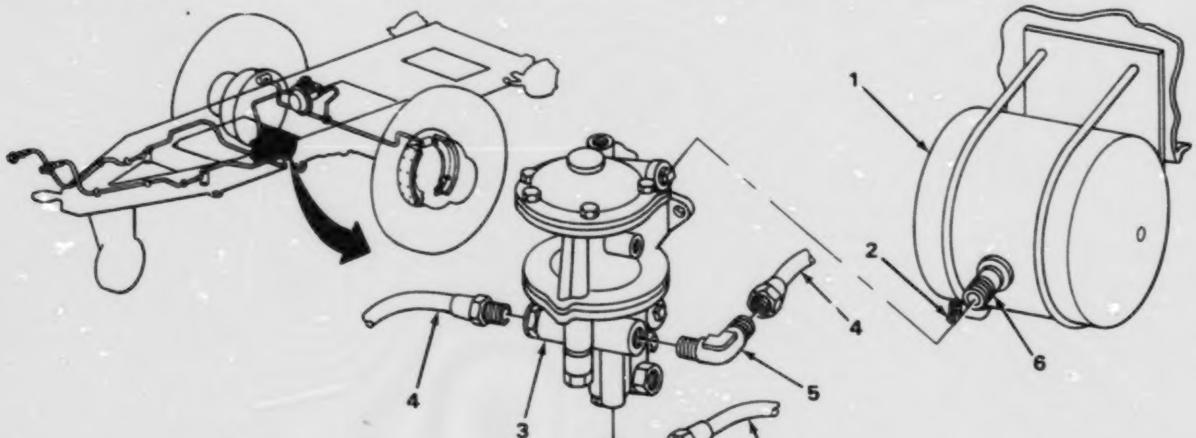
Tools	Materials/Parts
Pliers, slip-joint Wrench, open-end, 5/8-inch	Sealing tape (item 13, appendix E)

REMOVAL

WARNING

Wear protective goggles to prevent eye injury when opening air reservoir draincock. Step away from airstream.

	LOCATION	ITEM	ACTION REMARKS
1.	Air reservoir (1)	Draincock (2)	Open, release all air pressure, then close.
2.	Relay valve (3)	Three air lines (4)	Using 5/8-inch open-end wrench, unscrew and take off.
3.		Two elbows (5)	Using slip-joint pliers, unscrew and take off.
4.	Nipple (6)	Relay valve (3)	Turn counterclockwise and take off.



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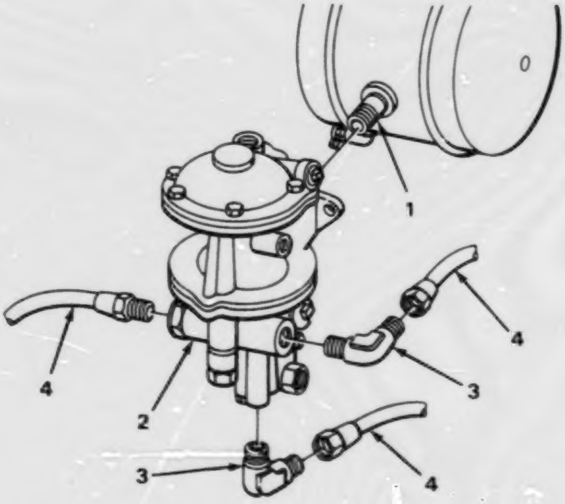
RELAY VALVE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
5. Nipple (1)	Relay valve (2)	a. Using sealing tape, wrap clockwise around first two or three threads. b. Turn clockwise to put on.
6. Relay valve (2)	Two elbows (3)	a. Using sealing tape, wrap clockwise around first two or three threads. b. Using slip-joint pliers, screw in and tighten.
7.	Three air lines (4)	a. Using sealing tape, wrap clockwise around first two or three threads. b. Using 5/8-inch open-end wrench, screw on and tighten.



TASK ENDS HERE

AIR RESERVOIR

This task covers:

a. Removal (page 4-95)
b. Installation (page 4-96)

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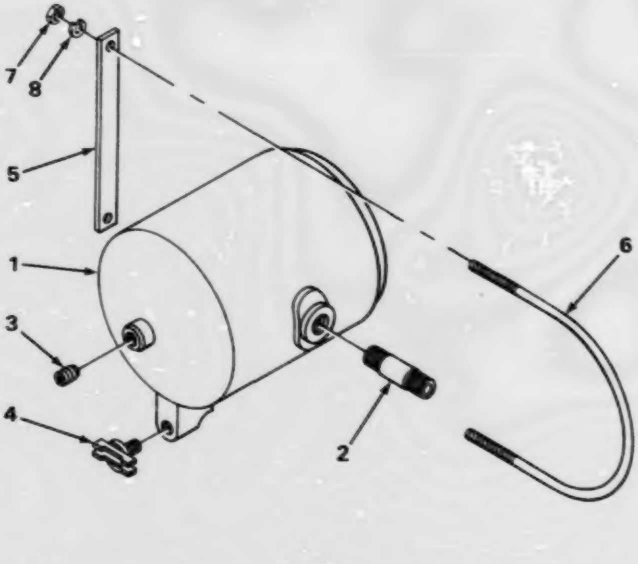
AIR RESERVOIR – CONTINUED

INITIAL SETUP

Tools	Materials/Parts
Wrench, open-end, 7/16-inch Wrench, open-end, 1/2-inch Wrench, pipe, 8-inch	Sealing tape (item 13, appendix E)
	Equipment Condition
	Relay valve removed (page 4-93).

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Air reservoir (1)	Nipple (2)	Using 8-inch pipe wrench, unscrew and take out.
2.	Pipe plug (3)	Using 7/16-inch open-end wrench, unscrew and take out.
3.	Draincock (4)	Using 1/2-inch open-end wrench, unscrew and take out.
4. Air reservoir (1) to mount (5)	Two U-bolts (6), four nuts (7), and four lockwashers (8)	Using 1/2-inch open-end wrench, unscrew and take out.
5. Mount (5)	Air reservoir (1)	Take off.



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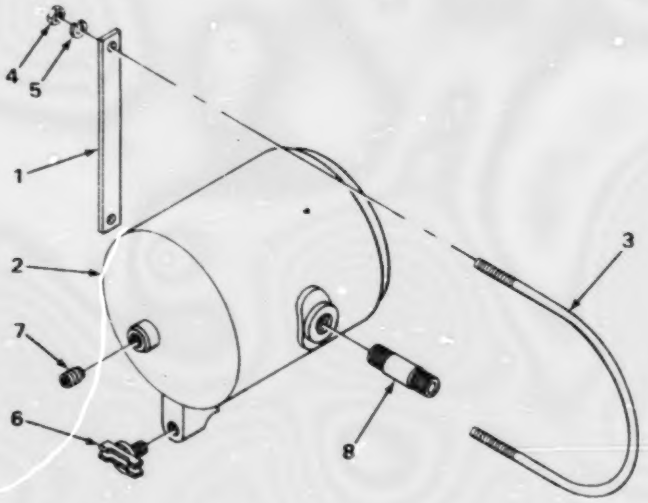
INSTALLATION

LOCATION	ITEM	ACTION REMARKS
6. Mount (1)	Air reservoir (2)	Put on.
7. Air reservoir (2) to mount (1)	Two U-bolts (3), four nuts (4), and four lockwashers (5)	Using 1/2-inch open-end wrench, screw on and tighten.
8. Air reservoir (2)	Draincock (6)	a. Using sealing tape, wrap clockwise around first two or three threads. b. Using 1/2-inch open-end wrench, screw in and tighten.
9. Air reservoir (2)	Pipe plug (7)	a. Using sealing tape, wrap clockwise around first two or three threads. b. Using 7/16-inch open-end wrench, screw in and tighten.
10.	Nipple (8)	a. Using sealing tape, wrap clockwise around first two or three threads. b. Using 8-inch pipe wrench, screw in and tighten.



NOTE

FOLLOW-ON MAINTENANCE: Install relay valve (page 4-93).

TASK ENDS HERE

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AIR FILTER

This task covers:

a. Removal (page 4-97)
b. Repair (page 4-98)
c. Installation (page 4-99)

INITIAL SETUP

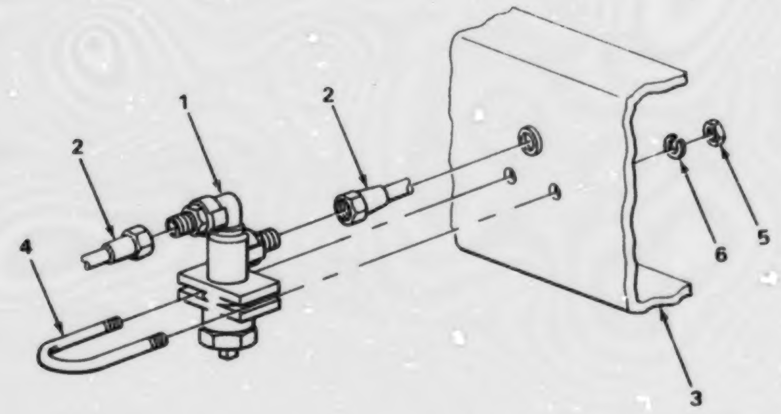
Tools

Wrench, open-end, 7/16-inch
Wrench, open-end, 5/8-inch
Wrench, open-end, 1 1/4-inch

Materials/Parts

Filter element and packing
Solvent, drycleaning, P-D-680 (item 11, appendix E)

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Air filter (1)	Two tubes (2)	Using 5/8-inch open-end wrench, unscrew and take off.
2. Air filter (1) to crossmember (3)	U-bolt (4), two nuts (5), and two lockwashers (6)	Using 7/16-inch open-end wrench, unscrew and take off.
3. Crossmember (3)	Air filter (1)	Take off.



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AIR FILTER – CONTINUED

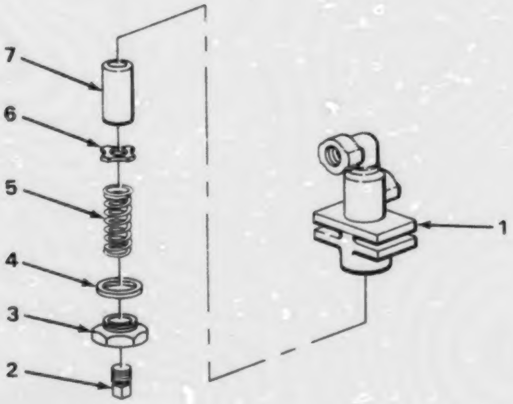
REPAIR

LOCATION	ITEM	ACTION	REMARKS
4. Body (1)	Plug (2)	Using 7/16-inch open-end wrench, unscrew and take off.	

WARNING

Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (59°C). Serious injury, illness, or loss of life could result.

LOCATION	ITEM	ACTION	REMARKS
5.	Adapter (3), gasket (4), spring (5), spring washer (6), and filter element (7)	a. Using 1 1/4-inch open-end wrench, remove. b. Using drycleaning solvent, clean all parts. c. Using 1 1/4-inch open-end wrench, screw in and tighten.	**Install new filter element and packing.**
6.	Plug (2)	Using 7/16-inch open-end wrench, screw in and tighten.	



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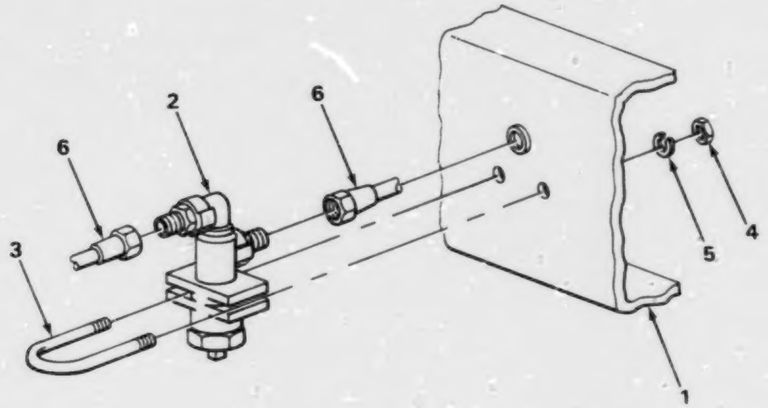
AIR FILTER – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION			
7.	Crossmember (1)	Air filter (2)	Place in position.
8.	Air filter (2) to crossmember (1)	U-bolt (3), two nuts (4), and two lockwashers (5)	Using 7/16-inch open-end wrench, screw in and tighten.
9.	Air filter (2)	Two tubes (6)	Using 5/8-inch open-end wrench, screw in and tighten.



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AIR LINES, HOSES, AND FITTINGS

This task covers:

- a. Coupling packing replacement (page 4-100)
- b. Coupling removal (page 4-100)
- c. Coupling installation (page 4-100)
- d. Intervehicular airhose removal (page 4-101)
- e. Intervehicular airhose installation (page 4-101)

INITIAL SETUP

Tools	Materials/Parts
Screwdriver, flat-tip, 3/8-inch	Coupling (as required)
Wrench, open-end, 1-inch	Coupling packing (as required)
Wrench, open-end, 1 1/16-inch	Hose (as required)

	LOCATION	ITEM	ACTION REMARKS
COUPLING PACKING REPLACEMENT			
1.	Coupling (1)	Dummy coupling (2)	Take off.
2.		Packing (3)	Using 3/8-inch flat-tip screwdriver, remove by prying. **Discard packing.**
3.		New packing (3)	Squeeze and install one side, then the other.
COUPLING REMOVAL			
4.	Coupling (1)	Nut (4)	Using 1-inch open-end and 1 1/6-inch open-end wrenches, remove and slide back.
5.	Hose (5)	Coupling (1) and sleeve (6)	Take off.
COUPLING INSTALLATION			
6.	Hose (5)	Coupling (1)	Install coupling by inserting guide (7) into hose and forcing hose into body of coupling as far as possible.
7.	Coupling (1)	Nut (4)	Using 1-inch open-end and 1 1/16-inch open-end wrenches, screw on and tighten.
8.		Dummy coupling (2)	Put on.

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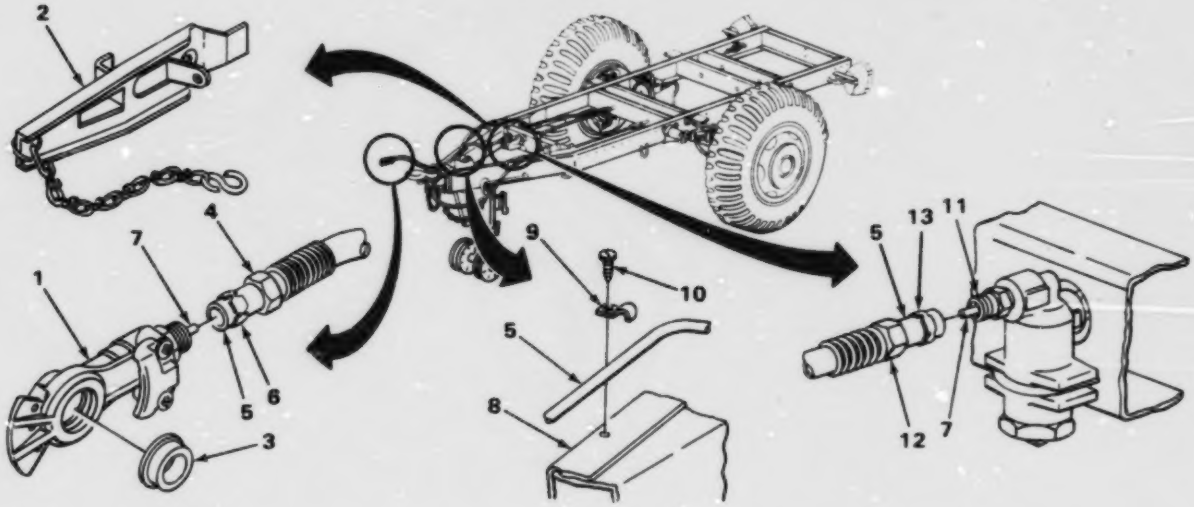
AIR LINES, HOSES, AND FITTINGS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INTERVEHICULAR AIRHOSE REMOVAL		
9. Hose (5) to drawbar (8)	Two clamps (9) and two screws (10)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
10. Hose (5) to air filter fitting (11)	Nut (12)	Using 1-inch open-end and 1 1/16-inch open-end wrenches, slide back.
11. Air filter fitting (11)	Hose (5) and sleeve (13)	Take off.
INTERVEHICULAR AIRHOSE INSTALLATION		
12. Air filter fitting (11)	Hose (5)	Install hose over guide and force into body of air filter fitting as far as possible.
13. Hose (5) to air filter fitting (11)	Nut (12)	Using 1-inch open-end and 1 1/16-inch open-end wrenches, tighten nut.
14. Hose (5) to drawbar (8)	Two clamps (9) and two screws (10)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.



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Section X. WHEEL, HUB, AND DRUM

	Page
Hub and Drum, Chassis Models M103A1, M105A1, M103A2, and M107A1	4-102
Hub and Drum, Chassis Models M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, and M107A2C	4-107
Wheels and Tires	4-112

HUB AND DRUM, CHASSIS MODELS M103A1, M105A1, M103A2, AND M107A1

This task covers:

a. Removal (page 4-102)
b. Disassembly (page 4-104)
c. Assembly (page 4-104)
d. Installation (page 4-105)
e. Wheel bearing adjustment (page 4-106)

INITIAL SETUP

Tools

- Driftpin, brass, 1/2-inch
- Hammer, ball-peen, 3-pound
- Handle, ratchet, 3/8-inch drive
- Handle, ratchet, 3/4-inch drive
- Jack, hand, hydraulic, 5-ton
- Jack stand, 2-ton
- Socket, 3/8-inch drive, 9/16-inch
- Socket, 3/8-inch drive, 3/4-inch
- Socket, wheel-bearing, 3/4-inch drive, 3-inch
- Wrench, open-end, 9/16-inch

Materials/Parts

- Gasket, hubcap
- Oil seal

Equipment Condition

Wheel and tire removed (page 3-4).

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Axle (1)	5-ton hydraulic hand jack (2) and 2-ton jack stand (3)	a. Position 2-ton jack stand. b. Remove 5-ton hydraulic hand jack.
2. Hubcap (4) to hub (5)	Eight screws (6) and eight lockwashers (7)	Using 3/4-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
3. Hub (5)	Hubcap (4) and gasket (8)	Take off. **Discard gasket.**

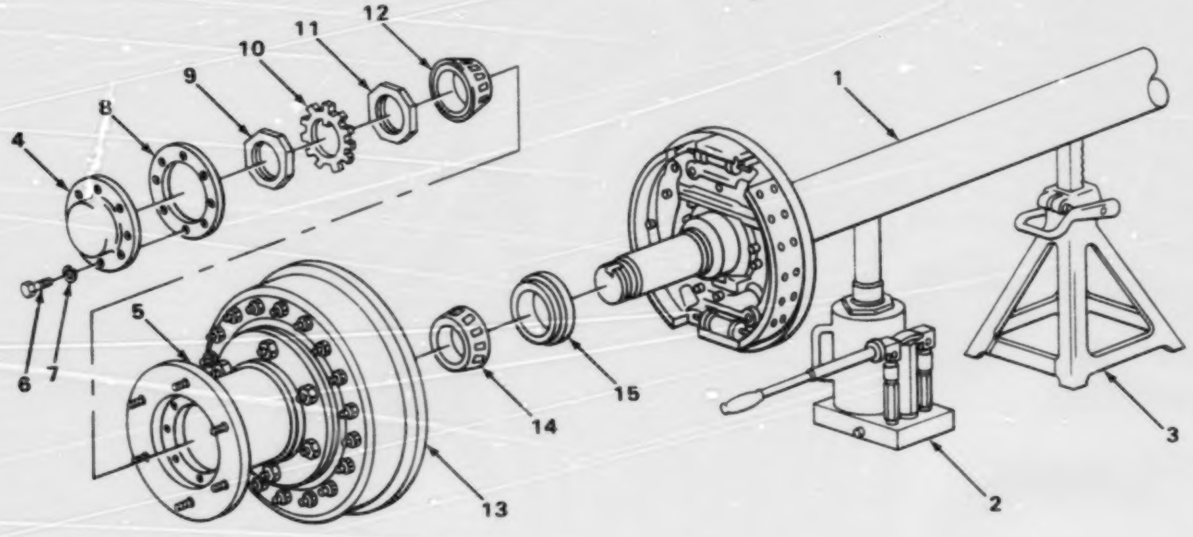
HUB AND DRUM, CHASSIS MODELS M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

LOCATION	ITEM	ACTION REMARKS
4. Hub (5) to axle (1)	Outer adjusting nut (9), keyed washer (10), and inner adjusting nut (11)	Using 3-inch socket and ratchet handle with 3/4-inch drive, unscrew and take off.
5. Hub (5) to axle (1)	Outer wheel bearing cone (12)	a. Pull hub out on axle slightly to loosen outer wheel bearing. b. Take off.

WARNING

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system. Clean dirt or mud from brake assemblies with bristle brush or cloth and water.

LOCATION	ITEM	ACTION REMARKS
6. Axle (1)	Hub (5) and drum (13)	Take off.
7. Hub (5)	Inner wheel bearing cone (14) and oil seal (15)	Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap out. **Discard oil seal.**



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HUB AND DRUM, CHASSIS MODELS M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
8. Adapter (1) to hub (2)	Eight screws (3) and eight lock-washers (4)	Using 3/4-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
9. Hub (2)	Adapter (1) and drum (5)	Take out.
10. Adapter (1) to drum (5)	10 screws (6), 10 nuts (7), 10 flat washers (8), and inspection cover (9)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, unscrew and take out.
11. Drum (5)	Adapter (1) and deflector (10)	Remove.

NOTE

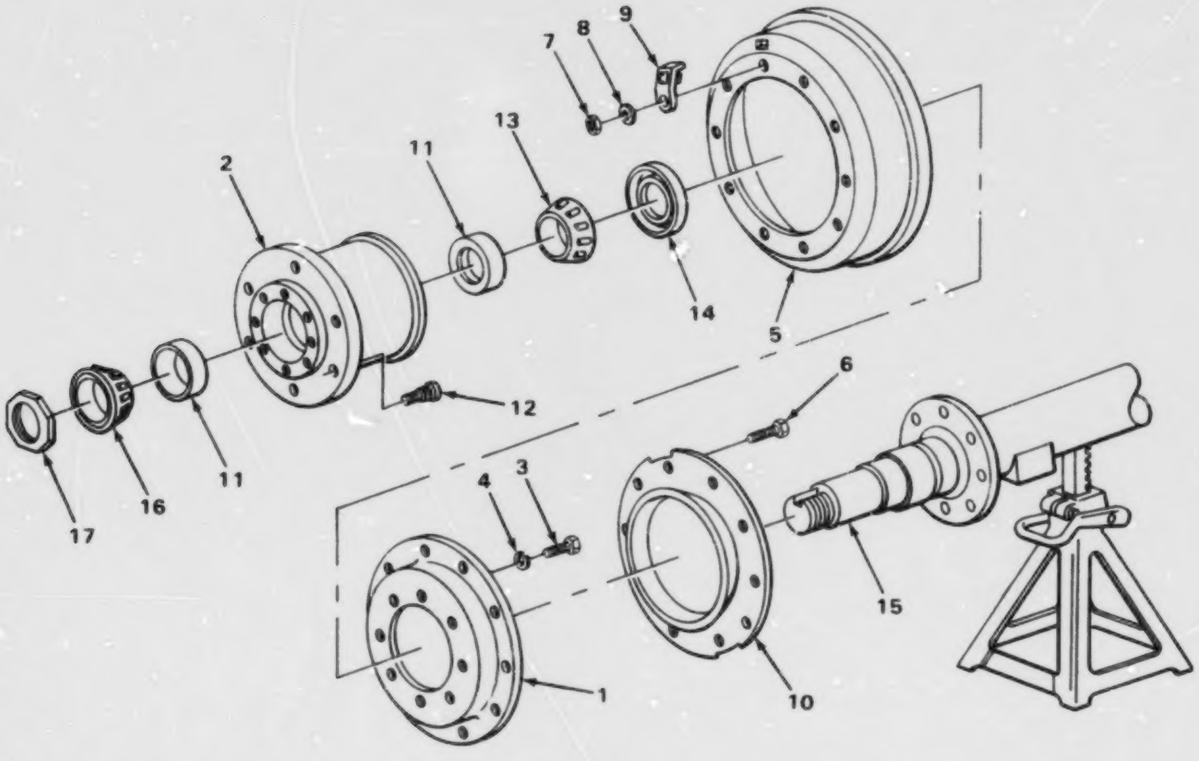
Bearing cups should be removed only if replacement is necessary.

Bearing cups should always be replaced if bearing cones are being replaced.

LOCATION	ITEM	ACTION REMARKS
12. Hub (2)	Two bearing cups (11) and six bolts (12)	Using 1/2-inch brass driftpin and 3-pound ball-peen hammer, remove.
ASSEMBLY		
13. Hub (2)	Two bearing cups (11) and six bolts (12)	Using 1/2-inch brass driftpin and 3-pound ball-peen hammer, tap into position.
14. Drum (5)	Adapter (1) and deflector (10)	Place in position.
15. Adapter (1) to drum (5)	10 screws (6), 10 nuts (7), 10 flat washers (8), and inspection cover (9)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch open-end wrench, screw in and tighten.
16. Hub (2)	Adapter (1) to drum (5)	Place in position.

HUB AND DRUM, CHASSIS MODELS M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
17.	Adapter (1) to hub (2)	Eight screws (3) and eight lockwashers (4)	Using 3/4-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
18.	Hub (2)	Inner wheel bearing cone (13)	Clean, inspect, repack, and place in position.
19.		New oil seal (14)	Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap into position.
INSTALLATION			
20.	Axle (15)	Hub (2) and drum (5)	Place in position.
21.	Hub (2) to axle (15)	Outer wheel bearing cone (16)	Clean, inspect, repack, and place in position.
22.		Inner adjusting nut (17)	Using 3-inch socket and ratchet handle with 3/8-inch drive, screw on until snug.



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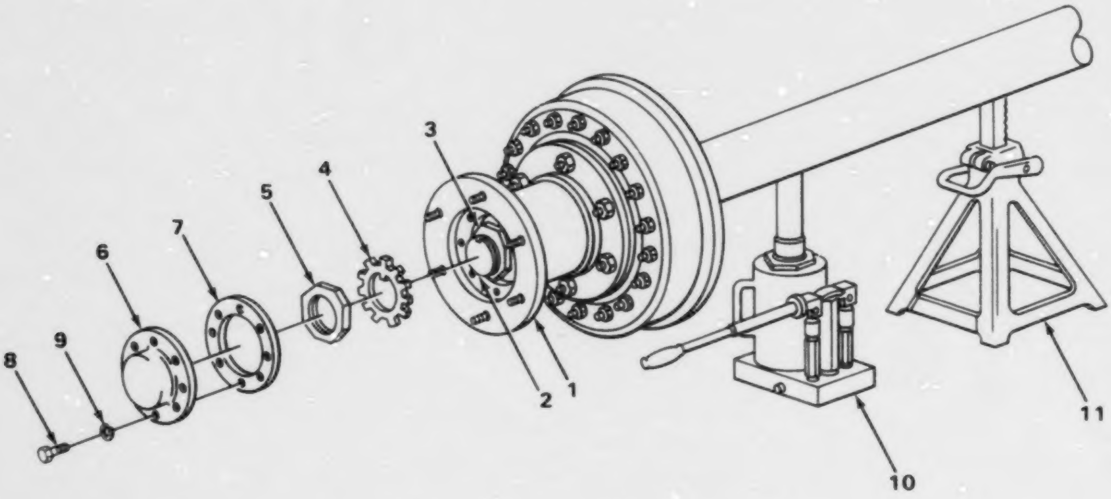
HUB AND DRUM, CHASSIS MODELS M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

WHEEL BEARING ADJUSTMENT

	LOCATION	ITEM	ACTION REMARKS
23.	Hub (1) to axle (2)	Inner adjusting nut (3)	a. Using 3-inch socket and ratchet handle with 3/4-inch drive, tighten while turning hub and drum until a drag is felt. b. Rotate hub and drum one turn. c. Loosen while rocking hub back and forth until a slight looseness is felt. d. Tighten slowly while rocking hub until looseness disappears.
24.		Keyed washer (4) and outer adjusting nut (5)	a. Using 3-inch socket and ratchet handle with 3/4-inch drive, screw on and tighten. b. Bend one tab of keyed washer over flat of outer adjusting nut.
25.	Hub (1)	Hubcap (6) and new gasket (7)	Place in position.
26.	Hubcap (6) to hub (1)	Eight bolts (8) and eight lockwashers (9)	Using 3/4-inch socket and ratchet handle with 3/8-inch drive, screw on and tighten.
27.	Axle (2)	5-ton hydraulic hand jack (10) and 2-ton jack stand (11)	a. Place 5-ton hydraulic hand jack in position under axle. b. Raise axle and remove 2-ton jack stand.



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HUB AND DRUM, CHASSIS MODELS M103A1, M105A1, M103A2, AND M107A1 – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install wheel and tire (page 3-4).
2. Adjust service brake (page 4-56).

TASK ENDS HERE

HUB AND DRUM, CHASSIS MODELS M103A3, M105A2, M103A3C, M150A2C, M103A4, M107A2, AND M107A2C

This task covers:

- a. Removal (page 4-108)
- b. Disassembly (page 4-108)
- c. Assembly (page 4-110)
- d. Installation (page 4-110)
- e. Wheel bearing adjustment (page 4-110)

INITIAL SETUP

Tools

- Driftpin, brass, 1/2-inch
- Hammer, ball-peen, 3-pound
- Handle, ratchet, 3/8-inch drive
- Handle, ratchet, 3/4-inch drive
- Jack, hand, hydraulic, 5-ton
- Jack stand, 2-ton
- Screwdriver, flat-tip, 3/8-inch
- Socket, 3/8-inch drive, 9/16-inch
- Socket, wheel bearing, 3/4-inch drive, 3 3/8-inch
- Wrench, box-end, 1 1/4-inch

Materials/Parts

- Gasket, hubcap
- Oil seal

Equipment Condition

Wheel and tire removed (page 3-4).

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HUB AND DRUM, CHASSIS MODELS M103A3, M105A2, M103A3C, M150A2C, M103A4, M107A2, AND M107A2C – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Axle (1)	5-ton hydraulic hand jack (2) and 2-ton jack stand (3)	a. Position 2-ton jack stand. b. Remove 5-ton hydraulic hand jack.
2. Hubcap (4) to hub (5)	Three screws (6) and three lockwashers (7)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
3. Hub (5)	Hubcap (4) and gasket (8)	Take off. **Discard gasket.**
4. Hub (5) to axle (1)	Outer adjusting nut (9), keyed washer (10), and inner adjusting nut (11)	a. Using 3/8-inch flat-tip screwdriver, bend tabs of keyed washer up. b. Using 3 3/8-inch socket and ratchet handle with 3/4-inch drive, unscrew and take off.
5.	Outer wheel bearing cone (12)	a. Pull hub out on axle slightly to loosen outer wheel bearing cone. b. Take off.

WARNING

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system. Clean dirt or mud from brake assemblies with bristle brush or cloth and water.

LOCATION	ITEM	ACTION REMARKS
6. Axle (1)	Hub (5) and drum (13)	Take off.
7.	Inner wheel bearing cone (14) and oil seal (15)	Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap out. **Discard oil seal.**
DISASSEMBLY		
8. Adapter plate (16) to hub (5)	Six bolts (17) and six self-locking nuts (18)	a. Using 1 1/4-inch box-end wrench, unscrew and take off nuts. b. Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap out bolts.

HUB AND DRUM, CHASSIS MODELS M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

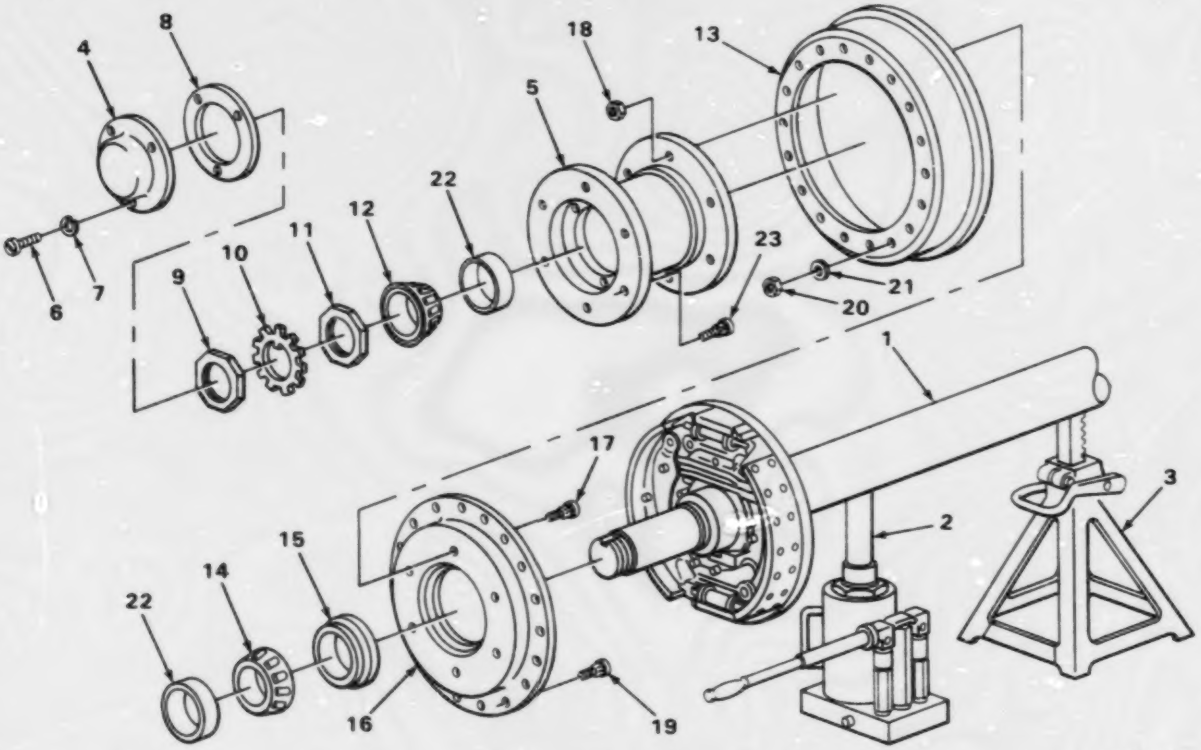
	LOCATION	ITEM	ACTION REMARKS
9.	Hub (5)	Adapter plate (16) and drum (13)	Take off.
10.	Adapter plate (16) to drum (13)	18 bolts (19), 18 nuts (20), and 18 flat washers (21)	a. Using 9/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take off nuts and lockwashers. b. Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap out bolts.
11.	Drum (13)	Adapter plate (16)	Take off.

NOTE

Bearing cups should be removed only if replacement is necessary.

Bearing cups should always be replaced if bearing cones are being replaced.

12.	Hub (5)	Two bearing cups (22) and six wheel bolts (23)	Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap out.



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HUB AND DRUM, CHASSIS MODELS M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
13. Hub (1)	Two bearing cones (2) and six wheel studs (3)	Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap into position.
14. Drum (4)	Adapter plate (5)	Place in position.
15. Adapter plate (5) to drum (4)	18 screws (6), 18 nuts (7), and 18 flat washers (8)	a. Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap in bolts. b. Using 9/16-inch socket and ratchet handle with 3/8-inch drive, install nuts and lockwashers.
16. Hub (1)	Adapter plate (5) and drum (4)	Place in position.
17. Adapter plate (5) to hub (1)	Six screws (9) and six self-locking nuts (10)	a. Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap in bolts. b. Using 1 1/4-inch box-end wrench, screw on and tighten self-locking nuts.
18. Hub (1)	Inner wheel bearing cone (11) and oil seal (12)	a. Clean, inspect, and repack inner wheel bearing cone. **See Lubrication Chart (page 4-2) and refer to TM 9-214.** b. Using 3-pound ball-peen hammer and 1/2-inch brass driftpin, tap into position.
INSTALLATION		
19. Axle (13)	Hub (1) and drum (4)	Install.
20. Hub (1) to axle (13)	Outer wheel bearing cone (14) and inner adjusting nut (15)	a. Clean, inspect, and repack outer wheel bearing cone. **See Lubrication Chart (page 4-2) and refer to TM 9-214.** b. Using 3 3/8-inch socket and ratchet handle with 3/4-inch drive, screw on until snug.
WHEEL BEARING ADJUSTMENT		
21. Hub (1) to axle (13)	Inner adjusting nut (15)	a. Using 3 3/8-inch socket and ratchet handle with 3/4-inch drive, tighten while turning hub and drum until drag is felt.

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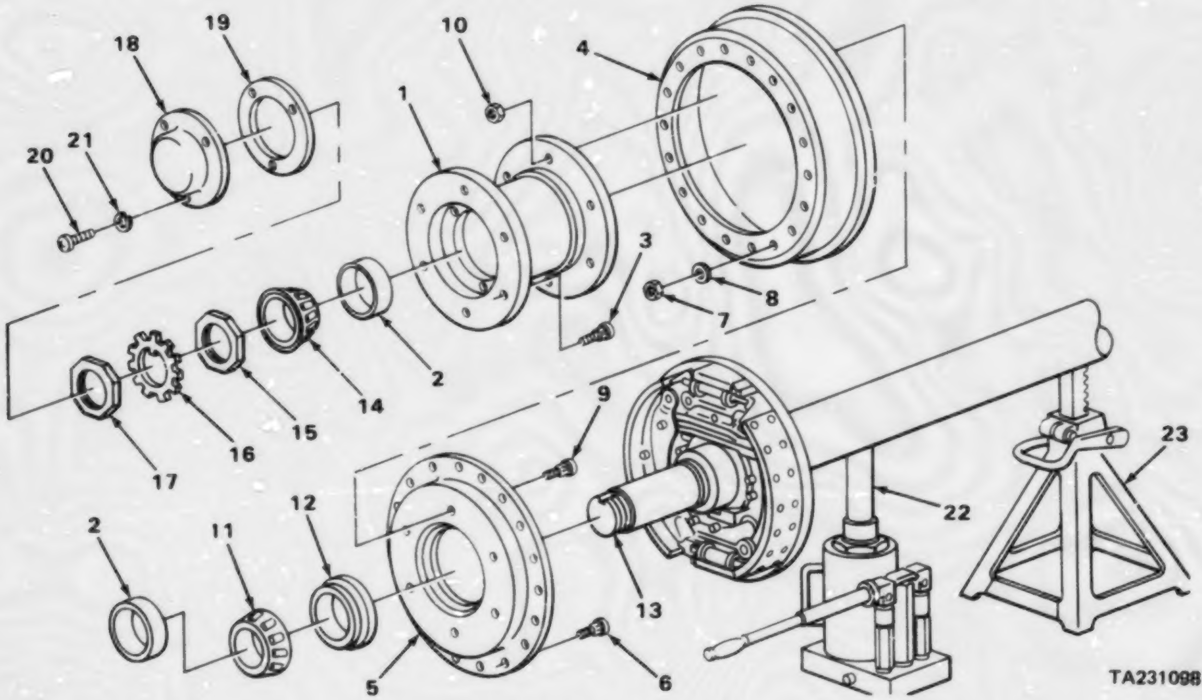
HUB AND DRUM, CHASSIS MODELS M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

LOCATION	ITEM	ACTION REMARKS
		b. Rotate hub and drum one turn. c. Loosen while rocking hub back and forth until a slight looseness is felt. d. Tighten slowly while rocking hub until looseness disappears.
22.	Keyed washer (16) and outer adjusting nut (17)	a. Using 3 3/8-inch socket and ratchet handle with 3/4-inch drive, screw on and tighten. b. Using 3/8-inch flat-tip screwdriver, bend tabs of keyed washer over flat of outer adjusting nut.
23. Hub (1)	Hubcap (18) and gasket (19)	Place in position.
24. Hub cap (18) to hub (1)	Three screws (20) and three lock-washers (21)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
25. Axle (13)	5-ton hydraulic hand jack (22) and 2-ton jack stand (23)	a. Place 5-ton hydraulic hand jack in position under axle. b. Raise axle and remove 2-ton jack stand.



HUB AND DRUM, CHASSIS MODELS M103A3, M105A2, M103A3C, M105A2C, M103A4, M107A2, AND M107A2C – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install wheel and tire (page 3-4).
2. Adjust service brakes (page 4-62).

TASK ENDS HERE

WHEELS AND TIRES

NOTE

The replacement and repair of wheels and tires will be in accordance with TM 9-2610-200-24, Organizational, Direct Support, and General Support Maintenance, Care, Maintenance, and Repair of Pneumatic Tires and Inner Tubes.

Section XI. FRAME AND TOWING ATTACHMENTS

	Page		Page
Adjustable Landing Leg	4-121	Safety Chain	4-114
Landing Leg	4-117	Support Leg	4-115
Drawbar Ring	4-112		

DRAWBAR RING

This task covers:

a. Removal (page 4-113)
b. Installation (page 4-113)

INITIAL SETUP

Tools

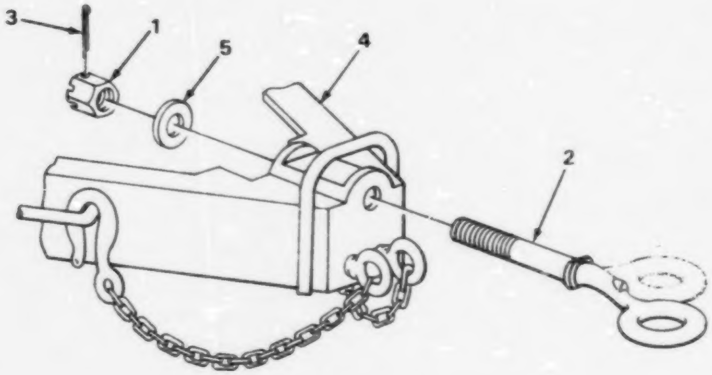
Pliers, diagonal-cutting
Wrench, box-end, 1 1/2-inch

Materials/Parts

Cotter pin

DRAWBAR RING – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
REMOVAL			
1.	Nut (1) to drawbar ring (2)	Cotter pin (3)	Using diagonal-cutting pliers, take out. **Discard cotter pin.**
2.	Drawbar ring (2) to drawbar coupler (4)	Nut (1) and flat washer (5)	Using 1 1/2-inch box-end wrench, unscrew and take off.
3.	Drawbar coupler (4)	Drawbar ring (2)	Pull out.
INSTALLATION			
4.	Drawbar coupler (4)	Drawbar ring (2)	Place in high or low position. **Drawbar ring is adjustable.**
5.	Drawbar ring (2) to drawbar coupler (4)	Flat washer (5) and nut (1)	Using 1 1/2-inch box-end wrench, screw on and tighten.
6.	Nut (1) to drawbar ring (2)	New cotter pin (3)	Using diagonal-cutting pliers, spread legs.



TASK END HERE

TA231099

SAFETY CHAIN

This task covers:

a. Removal (page 4-114)
b. Installation (page 4-114)

INITIAL SETUP

Tools

Wrench, box-end, 15/16-inch
Wrench, wheel lug

	LOCATION	ITEM	ACTION REMARKS
REMOVAL			
1.	Safety chain eyebolt (1) to drawbar coupler (2)	Nut (3)	Using 15/16-inch box-end wrench, prevent from turning.
2.	Drawbar coupler (2)	Safety chain eyebolt (1)	Using wheel lug wrench, unscrew.
3.		Nut (3) and lockwasher (4)	Take off.
INSTALLATION			
4.	Drawbar coupler (2)	Nut (3) and lockwasher (4)	Place in position.
5.		Safety chain eyebolt (1)	Place in position and screw into nut by hand.
6.	Safety chain eyebolt (1) to drawbar coupler (2)	Nut (3)	Using 15/16-inch box-end wrench, prevent from turning.
7.	Drawbar coupler (2)	Safety chain eyebolt (1)	Using wheel lug wrench, screw in and tighten.

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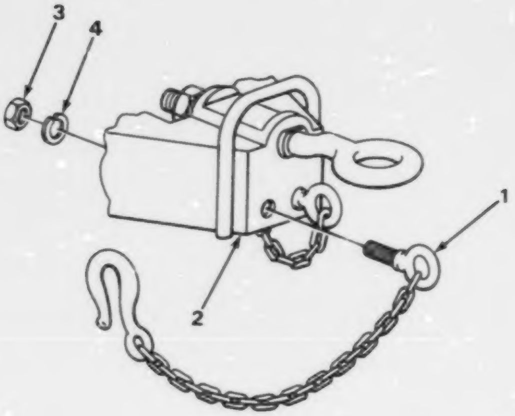
SAFETY CHAIN – CONTINUED



TASK ENDS HERE

SUPPORT LEG

This task covers:

a. Removal (page 4-115)
b. Installation (page 4-116)

INITIAL SETUP

Tools

Wrench, box-end, 7/16-inch
Wrench, box-end, 9/16-inch
(two required)

Tools – Continued

Wrench, box-end, 1 1/8-inch
(two required)

LOCATION	ITEM	ACTION **REMARKS**

REMOVAL

NOTE

The support leg is used on the M105A1 and M105A2 cargo trailers only.

TA231100

SUPPORT LEG – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
1. Support leg (1)	Grease fitting (2)	Using 7/16-inch box-end wrench, unscrew and take out.
2. Support leg (1) to bracket (3)	Screw (4) and self-locking nut (5)	Using two 1 1/8-inch box-end wrenches, unscrew and take out.
3. Bracket (3)	Support leg (1)	Take off.
4. Bracket (3) to frame (6)	Two screws (7), two lockwashers (8), and two nuts (9)	Using two 9/16-inch box-end wrenches, unscrew and take out.
5. Frame (6)	Bracket (3)	Take off.
6. Bracket (10) to frame (6)	Two screws (11), two lockwashers (12), and two nuts (13)	Using two 9/16-inch box-end wrenches, unscrew and take out.
7. Frame (6)	Bracket (10)	Take off.
INSTALLATION		
8. Frame (6)	Bracket (10)	Place in position.
9. Bracket (10) to frame (6)	Two screws (11), two lockwashers (12), and two nuts (13)	Using two 9/16-inch box-end wrenches, screw in and tighten.
10. Frame (6)	Bracket (3)	Place in position.
11. Bracket (3) to frame (6)	Two screws (7), two lockwashers (8), and two nuts (9)	Using two 9/16-inch box-end wrenches, screw in and tighten.
12. Bracket (3)	Support leg (1)	Place in position.
13. Support leg (1) to bracket (3)	Screw (4) and self-locking nut (5)	Using two 1 1/8-inch box-end wrenches, screw in and tighten.
14. Support leg (1)	Grease fitting (2)	Using 7/16-inch box-end wrench, screw in and tighten. **Lubricate fitting . See Lubrication Chart (page 4-2).**

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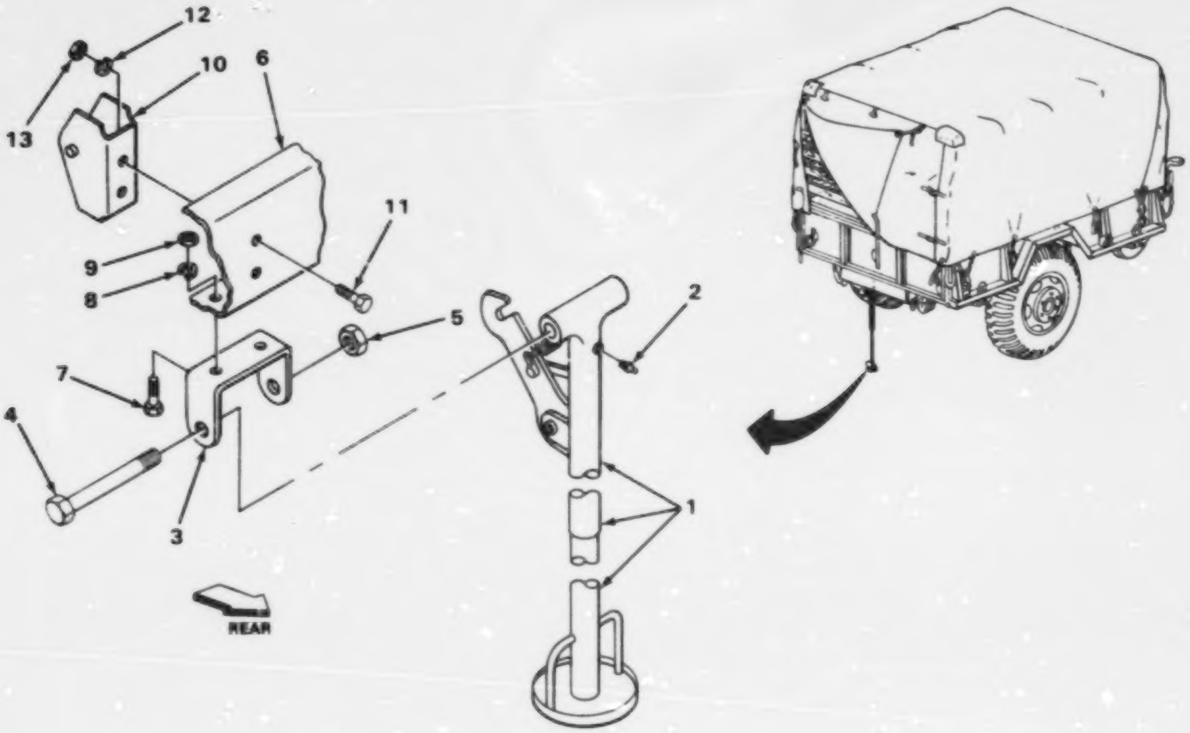
SUPPORT LEG – CONTINUED



TA231101

TASK ENDS HERE

LANDING LEG

This task covers:

a. Removal (page 4-118)
b. Disassembly (page 4-118)
c. Assembly (page 4-120)
d. Installation (page 4-120)

INITIAL SETUP

Tools

Driftpin, brass, 3/16-inch
Hammer, ball-peen, 1-pound
Handle, ratchet, 3/4-inch drive
Jack stands, 2-ton (two required)
Socket, 3/4-inch drive, 1 1/8-inch
Wrench, box-end, 7/16-inch
Wrench, box-end, 1-inch
(two required)

Materials/Parts

Bearings (two required)

Personnel Required

Two

	LOCATION	ITEM	ACTION REMARKS

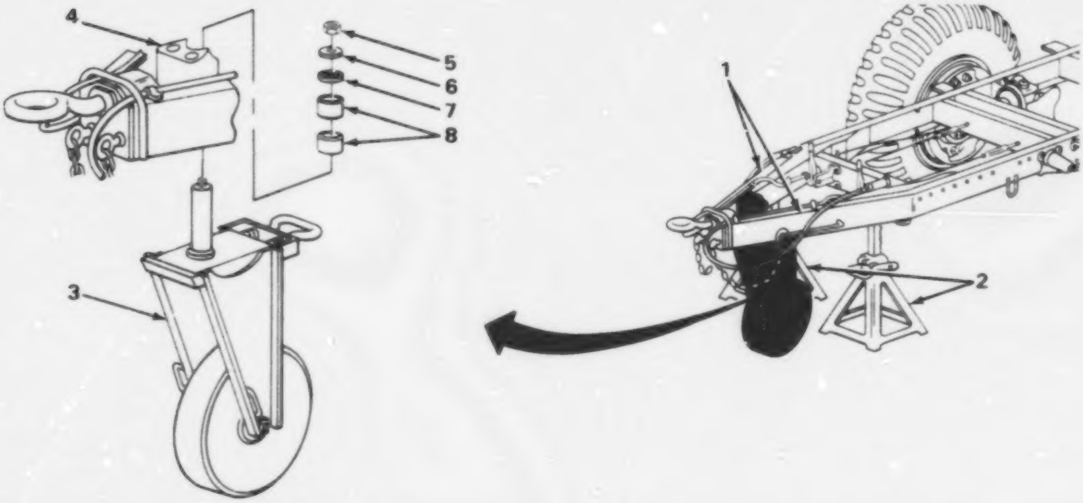
REMOVAL

	LOCATION	ITEM	ACTION REMARKS
1.	Drawbars (1)	Two 2-ton jack stands (2)	With assistance, position 2-ton jack stands under drawbars and behind landing leg. **Landing leg should be approximately 8 inches (20 cm) off the ground.**
2.	Landing leg (3) to support bracket (4)	Self-locking nut (5), flat washer (6), and washer (7)	Using 1 1/8-inch socket and ratchet handle with 3/4-inch drive, unscrew and take off.
3.	Support bracket (4)	Landing leg (3)	Take off.

NOTE

Do not remove bearings unless replacement is necessary.

	LOCATION	ITEM	ACTION REMARKS
4.		Two bearings (8)	Using 1-pound ball-peen hammer and 3/16-inch brass driftpin, tap out. **Discard two bearings.**



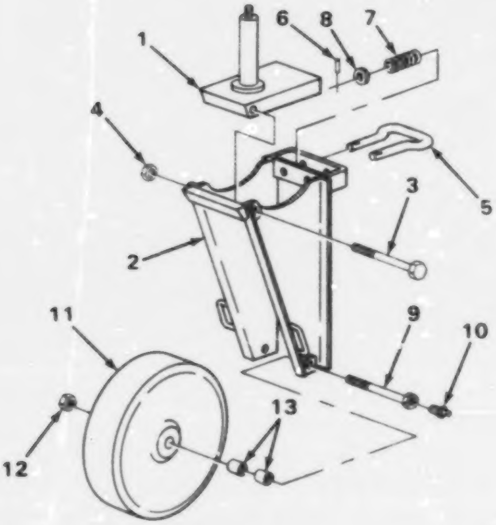
DISASSEMBLY

	LOCATION	ITEM	ACTION REMARKS
5.	Swivel bracket (1) to leg (2)	Shoulder bolt (3) and self-locking nut (4)	Using two 1-inch box-end wrenches, unscrew and take out.

TA231102

LANDING LEG – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
6.	Leg (2)	Swivel bracket (1)	Remove.
7.	Lock handle (5) to leg (2)	Two retaining pins (6)	Using 1-pound ball-peen hammer and 3/16-inch brass driftpin, tap out.
8.	Leg (2)	Lock handle (5), two springs (7), and two flat washers (8)	Take off.
9.	Bolt (9) to leg (2)	Grease fitting (10)	Using 7/16-inch box-end wrench, unscrew and take out.
10.	Wheel (11) to leg (2)	Bolt (9) and self-locking nut (12)	Using two 1-inch box-end wrenches, unscrew and take out.
11.	Leg (2)	Wheel (11)	Take off.
12.	Wheel (11)	Two bearings (13)	Using 1-pound ball-peen hammer and 3/16-inch brass driftpin, tap out. **Discard two bearings.**



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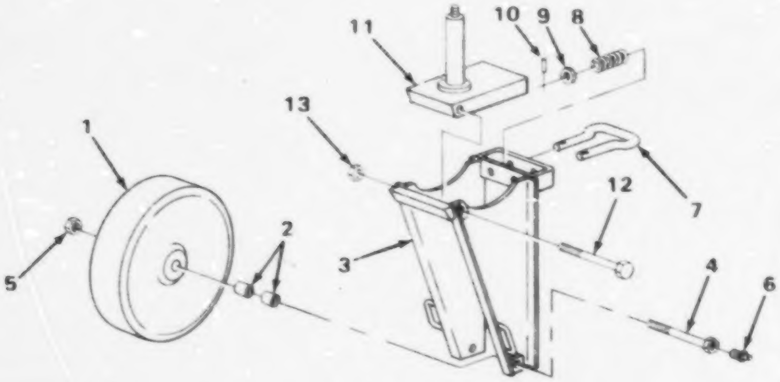
LANDING LEG – CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
13. Wheel (1)	Two new bearings (2)	Using 1-pound ball-peen hammer and 3/16-inch brass driftpin, tap in.
14. Leg (3)	Wheel (1)	Place in position.
15. Wheel (1) to leg (3)	Bolt (4) and self-locking nut (5)	Using two 1-inch box-end wrenches, screw in and tighten.
16. Bolt (4) to leg (3)	Grease fitting (6)	Using 7/16-inch box-end wrench, screw in and tighten. **Lubricate fitting. See Lubrication Chart (page 4-2).**
17. Leg (3)	Lock handle (7), two springs (8), and two flat washers (9)	Assemble and place in position.
18. Lock handle (7) to leg (3)	Two retaining pins (10)	Using 1-pound ball-peen hammer and 3/16-inch brass driftpin, tap in.
19. Leg (3)	Swivel bracket (11)	Place in position.
20. Swivel bracket (11) to leg (3)	Shoulder bolt (12) and self-locking nut (13)	Using two 1-inch box-end wrenches, screw in and tighten.



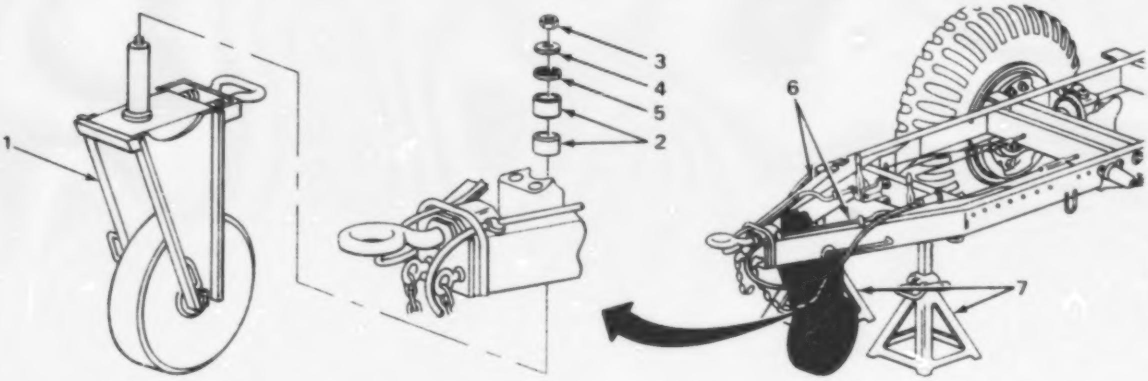
INSTALLATION

LOCATION	ITEM	ACTION REMARKS
21. Landing leg (1)	Two new bearings (2)	Using 1-pound ball-peen hammer and 3/16-inch brass driftpin, tap into position.

TA231104

LANDING LEG – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
22.		Landing leg (1)	Place in position.
23.	Landing leg (1)	Self-locking nut (3), flat washer (4), and thrust washer (5)	Using 1 1/8-inch socket and ratchet handle with 3/4-inch drive, screw on and tighten.
24.	Drawbars (6)	Landing leg (1) and two 2-ton jack stands (7)	With help from assistant and with landing leg in down and locked position, remove 2-ton jack stands.



TASK ENDS HERE

ADJUSTABLE LANDING LEG

This task covers:

- a. Removal (page 4-122)
- b. Installation (page 4-122)
- c. Disassembly (page 4-122)
- d. Assembly (page 4-123)

INITIAL SETUP

Tools

Driftpin, brass, 1/2-inch
Hammer, ball-peen, 3-pound
Handle, ratchet, 1/2-inch drive
Jack stands, 2-ton (two required)
Pliers, diagonal-cutting
Socket, 1/2-inch drive, 7/16-inch
Socket, 1/2-inch drive, 3/4-inch
Socket, 1/2-inch drive, 7/8-inch

Tools – Continued

Wrench, box-end, 7/16-inch
Wrench, box-end, 1-inch

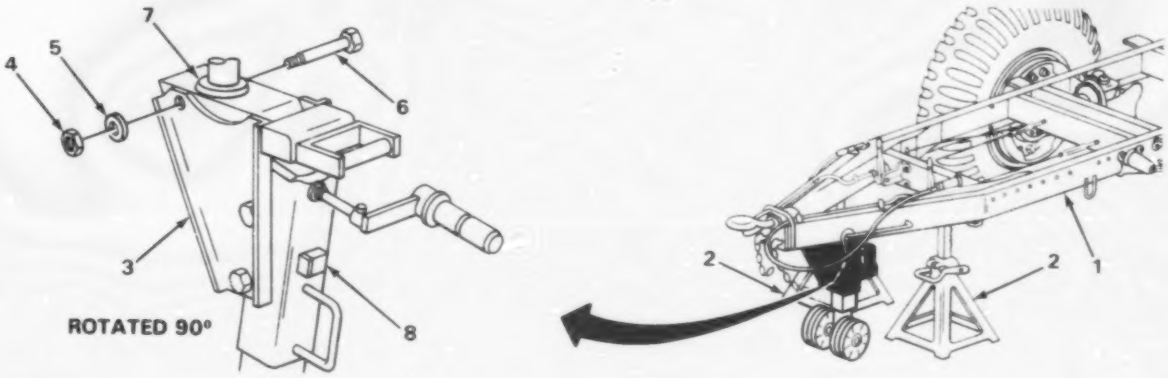
Materials/Parts

Cotter pins (two required)

TA231105

ADJUSTABLE LANDING LEG – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Chassis (1)	2-ton jack stands (2)	Place under chassis.
2. Frame support (3)	Nut (4), lockwasher (5), and bolt (6)	Using 7/8-inch socket, ratchet handle with 1/2-inch drive, and 1-inch box-end wrench, unscrew and take off.
3. Frame (7)	Landing gear (8)	Take off.
INSTALLATION		
4. Frame support (3)	Landing gear (8)	Place in position.
5. Frame support (3)	Nut (4), lockwasher (5), and bolt (6)	Using 7/8-inch socket, ratchet handle with 1/2-inch drive, and 1-inch box-end wrench, screw in and tighten.
6. Chassis (1)	2-ton jack stands (2)	Take out.

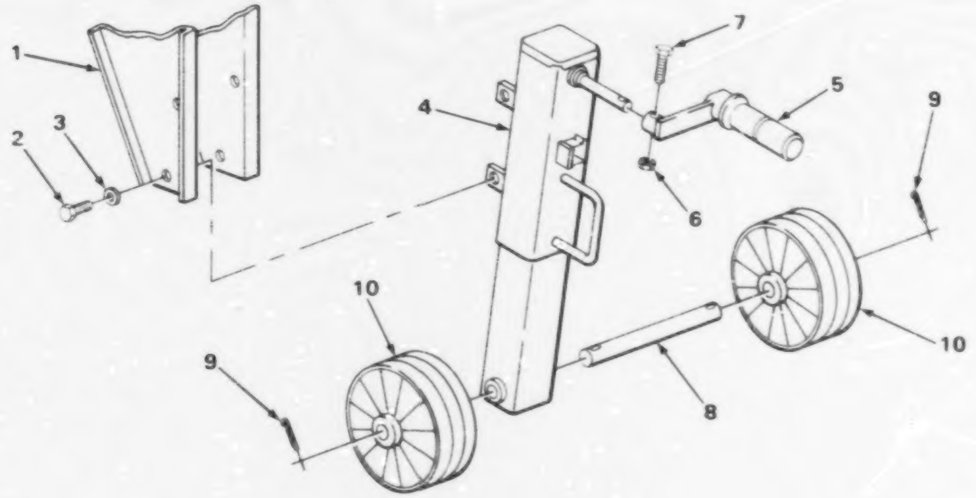


LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
7. Frame support (1)	Four bolts (2) and four lockwashers (3)	Using 3/4-inch socket and ratchet handle with 1/2-inch drive, unscrew and take off.
8.	Landing leg (4)	Take off.
9. Handcrank (5)	Nut (6) and bolt (7)	Using 7/16-inch socket, ratchet handle with 1/2-inch drive, and 7/16-inch box-end wrench, unscrew and take off.
10. Landing leg (4)	Handcrank (5)	Take off.

TA231106

ADJUSTABLE LANDING LEG – CONTINUED

LOCATION	ITEM	ACTION REMARKS
11. Axle (8)	Two cotter pins (9)	Using diagonal-cutting pliers, take out cotter pins. **Discard cotter pins.**
12. Landing leg (4)	Axle (8) and two wheels (10)	Take off.
ASSEMBLY		
13. Landing leg (4)	Axle (8) and wheels (10)	Place in position.
14. Axle (8)	Two new cotter pins (9)	Place in position and, using diagonal-cutting pliers, drive in cotter pins.
15. Landing leg (4)	Handcrank (5)	Place in position and aline holes.
16. Handcrank (5)	Bolt (7) and nut (6)	Using 7/16-inch socket, ratchet handle with 1/2-inch drive, and 7/16-inch box-end wrench, screw in and tighten.
17. Frame support (1)	Landing leg (4)	Place in position.
18.	Four bolts (2) and four lockwashers (3)	Using 3/4-inch socket and ratchet handle with 1/2-inch drive, install.



TASK ENDS HERE

TA231107

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Section XII. SPRINGS

	Page		Page
Springs	4-124	Spring Shackles	4-128

SPRINGS

This task covers:

a. Removal (page 4-124)
b. Installation (page 4-126)

INITIAL SETUP

Tools

- Driftpin, brass, 1/2-inch
- Hammer, ball-peen, 1-pound
- Handle, ratchet, 3/8-inch drive
- Jack, hand, hydraulic, 5-ton
- Jack stand, 2-ton
- Socket, 3/8-inch drive, 9/16-inch
- Wrench, box-end, 7/16-inch
- Wrench, box-end, 9/16-inch
- Wrench, box-end, 1 1/8-inch

Personnel Required

Two

Equipment Condition

Wheel and tire removed (page 3-4).

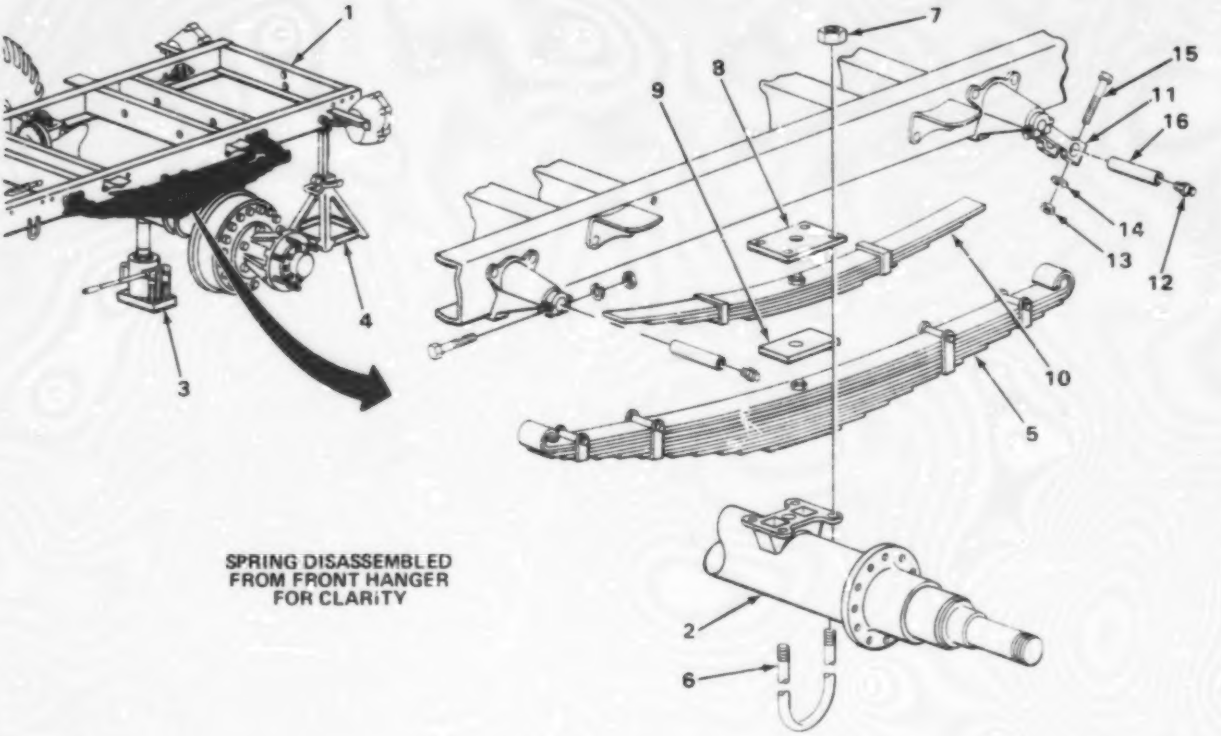
	LOCATION	ITEM	ACTION **REMARKS**
	REMOVAL		
1.	Rear crossmember (1) and axle (2)	5-ton hydraulic hand jack (3) and 2-ton jack stand (4)	a. Position 2-ton jack stand under rear crossmember. b. Lower jack to remove weight from spring (5).
2.	Axle (2) to spring (5)	Two U-bolts (6) and four nuts (7)	With 5-ton hydraulic hand jack supporting weight of axle, using 1 1/8-inch box-end wrench, unscrew and take out.
3.	Spring (5)	Two plates (8 and 9) and auxiliary spring (10)	Take off.

NOTE

Procedure given below is for one spring and is the same for both sides.

SPRINGS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
4. Axle (2)	5-ton hydraulic hand jack (3)	Lower slightly to give 1-inch (26 mm) clearance between spring and axle.
5. Shackle (11)	Grease fitting (12)	Using 7/16-inch box-end wrench, unscrew and take out.
6.	Two nuts (13), two lockwashers (14), and two screws (15)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, unscrew and take out.
7. Spring (5) to shackle (11)	Pin (16)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap out.
8. Shackle (11)	Spring (5)	With assistance, take off.

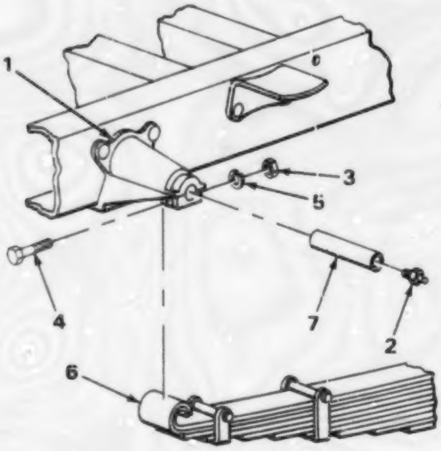


SPRING DISASSEMBLED FROM FRONT HANGER FOR CLARITY

TA231108

SPRINGS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
9. Spring hanger (1)	Grease fitting (2)	Using 7/16-inch box-end wrench, unscrew and take out.
10.	Nut (3), screw (4), and lockwasher (5)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, unscrew and take out.
11. Spring (6) to spring hanger (1)	Pin (7)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap out.
12. Spring hanger (1)	Spring (6)	Take out.

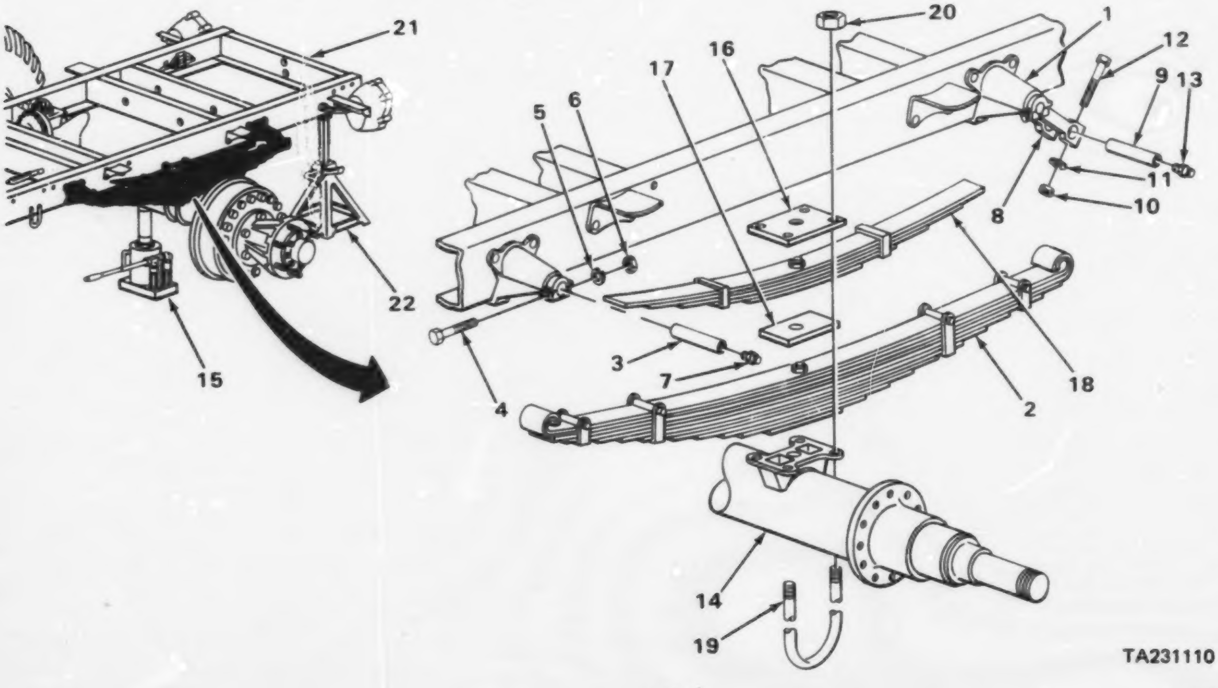


LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
13. Spring hanger (1)	Spring (2)	Place in position.
14. Spring (2) to spring hanger (1)	Pin (3)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap in and aline groove for screw (4).
15. Spring hanger (1)	Screw (4), lock-washer (5), and nut (6)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, screw in and tighten.
16.	Grease fitting (7)	Using 7/16-inch box-end wrench, screw in and tighten.

TA231109

SPRINGS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
17.	Shackle (8)	Spring (2)	With assistance, place in position.
18.	Spring (2) to shackle (8)	Pin (9)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap in.
19.	Shackle (8)	Two nuts (10), two lockwashers (11), and two screws (12)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, screw in and tighten.
20.		Grease fitting (13)	Using 7/16-inch box-end wrench, screw in and tighten.
21.	Axle (14)	5-ton hydraulic hand jack (15)	Using 5-ton hydraulic hand jack, raise axle to aline with spring.
22.	Spring (2)	Plates (16 and 17) and auxiliary spring (18)	Place in position.
23.	Axle (14) to spring (2)	Two U-bolts (19) and four nuts (20)	Using 1 1/8-inch box-end wrench, screw in and tighten.
24.	Axle (14) and rear crossmember (21)	5-ton hydraulic hand jack (15) and 2-ton jack stand (22)	Raise 5-ton hydraulic hand jack and remove 2-ton jack stand.



SPRINGS – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Install wheel and tire (page 3-4).

TASK ENDS HERE

SPRING SHACKLES

This task covers:

a. Removal (page 4-128)
b. Installation (page 4-130)

INITIAL SETUP

Tools

Driftpin, brass, 1/2-inch
Hammer, ball-peen, 1-pound
Handle, ratchet, 3/8-inch drive
Jack, hand, hydraulic, 5-ton
Jack stand, 2-ton
Socket, 3/8-inch drive, 9/16-inch

Tools – Continued

Wrench, box-end, 7/16-inch
Wrench, box-end, 9/16-inch

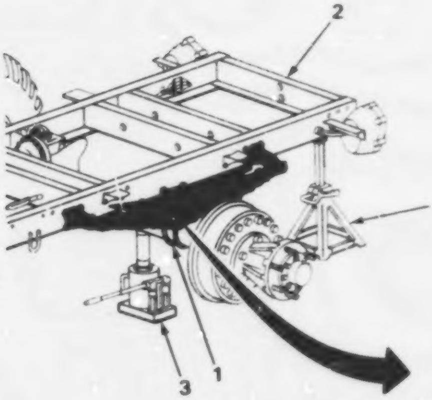
Personnel Required

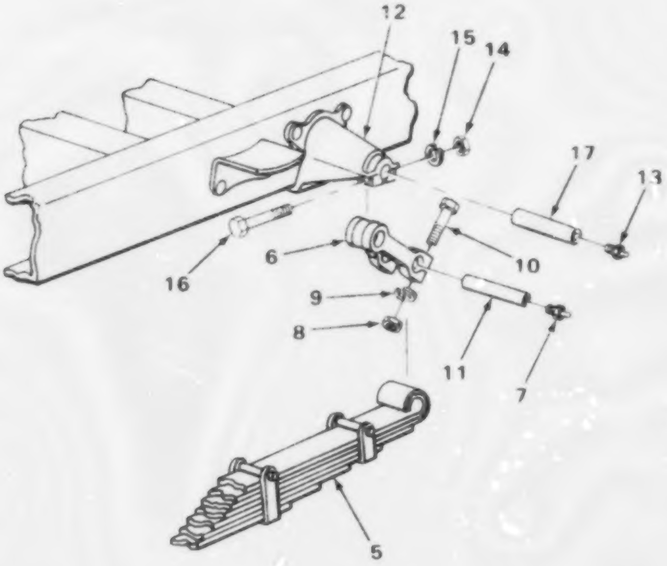
Two

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
		NOTE Procedure given below is for one spring shackle.
1. Axle (1) and rear crossmember (2)	5-ton hydraulic hand jack (3) and 2-ton jack stand (4)	a. Position 5-ton hydraulic hand jack under axle and raise trailer. b. Position 2-ton jack stand under rear crossmember.
2. Axle (1)	5-ton hydraulic hand jack (3)	Lower to remove weight from spring (5).
3. Shackle (6)	Grease fitting (7)	Using 7/16-inch box-end wrench, unscrew and take out.
4.	Two nuts (8), two lockwashers (9), and two screws (10)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, unscrew and take out.

SPRING SHACKLES – CONTINUED

LOCATION	ITEM	ACTION REMARKS
5. Spring (5) to shackle (6)	Pin (11)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap out.
6. Spring hanger (12)	Grease fitting (13)	Using 7/16-inch box-end wrench, unscrew and take out.
7.	Nut (14), lockwasher (15), and screw (16)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, unscrew and take out.
8. Shackle (6) to spring hanger (12)	Pin (17)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap out.
9. Spring hanger (12)	Shackle (6)	With assistance, take off.





TA231111

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SPRING SHACKLES – CONTINUED

	LOCATION	ITEM	ACTION REMARKS

INSTALLATION

WARNING

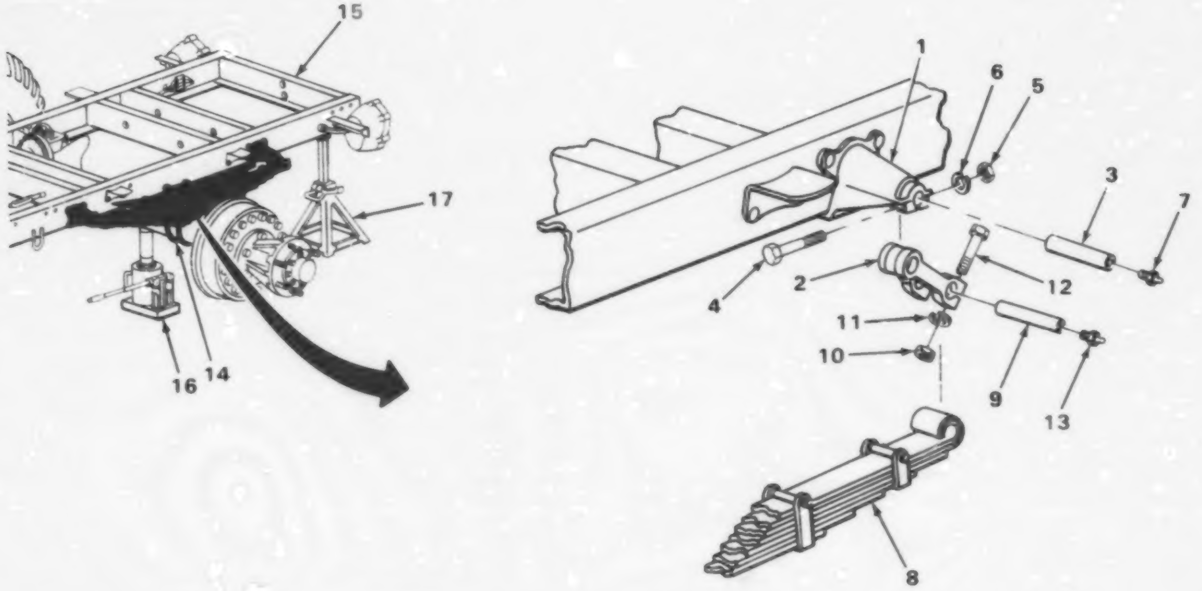
Drycleaning solvent P-D-680 is both toxic and flammable. Avoid prolonged breathing of vapors and use only in well-ventilated area. Avoid skin contact. Do not use near open flame or excessive heat. Flashpoint of solvent is 138°F (59°C). Serious injury, illness, or loss of life could result.

NOTE

Before installation, clean mud and dirt from all exposed parts. Using drycleaning solvent P-D-680, clean spring bearings, shackle bearings, and shackle pins.

	LOCATION	ITEM	ACTION REMARKS
10.	Spring hanger (1)	Shackle (2)	Place in position.
11.	Shackle (2) to spring hanger (1)	Pin (3)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap in and aline groove for screw (4).
12.	Spring hanger (1)	Nut (5), lockwasher (6), and screw (4)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, screw in and tighten.
13.		Grease fitting (7)	Using 7/16-inch box-end wrench, screw in and tighten.
14.	Spring (8) to shackle (2)	Pin (9)	Using 1-pound ball-peen hammer and 1/2-inch brass driftpin, tap in.
15.	Shackle (2)	Two nuts (10), two lockwashers (11), and two screws (12)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, and 9/16-inch box-end wrench, screw in and tighten.
16.		Grease fitting (13)	Using 7/16-inch box-end wrench, screw in and tighten.
17.	Axle (14) and rear crossmember (15)	5-ton hydraulic hand jack (16) and 2-ton jack stand (17)	a. Raise 5-ton hydraulic hand jack and remove 2-ton jack stand. b. Lower jack and take out.

SPRING SHACKLES – CONTINUED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TASK ENDS HERE

Section XIII. CARGO BODY, M105 SERIES

	Page		Page
Body, Chassis Model M105A1	4-132	Tailgate	4-135
Body, Chassis Model M105A2 and M105A2C	4-134		

TA231112

BODY, CHASSIS MODEL M105A1

This task covers:

a. Removal (page 4-132)
b. Installation (page 4-132)

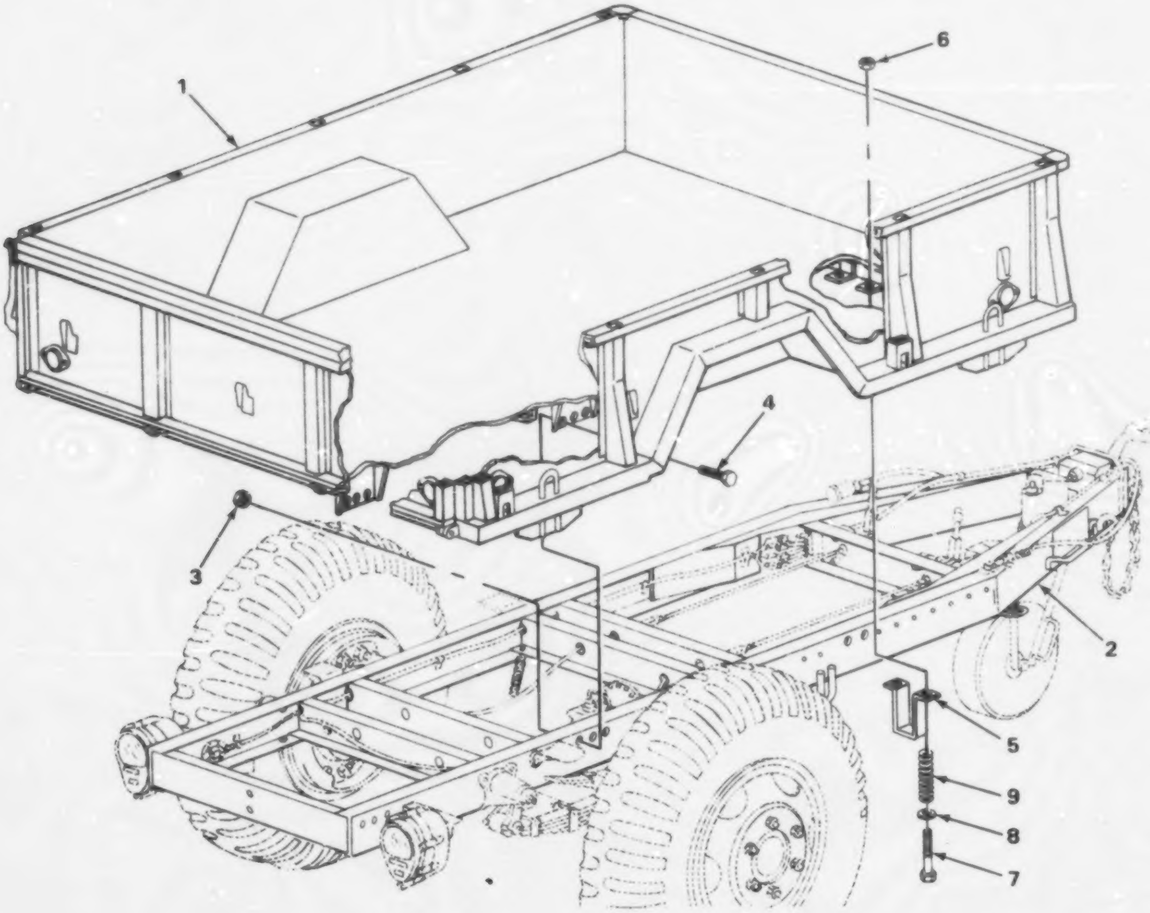
INITIAL SETUP

Tools	Personnel Required
Handle, ratchet, 1/2-inch drive Hoist and sling, overhead, 10-ton Socket, 1/2-inch drive, 15/16-inch Wrench, box-end, 15/16-inch	Two

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Body (1) to chassis (2)	12 self-locking nuts (3) and 12 screws (4)	Using 15/16-inch socket, ratchet handle with 1/2-inch drive, and 15/16-inch box-end wrench, unscrew and take out.
2. Two brackets (5) to body (1)	Four self-locking nuts (6), four screws (7), four flat washers (8), and four springs (9)	Using 15/16-inch socket, ratchet handle with 1/2-inch drive, and 15/16-inch box-end wrench, unscrew and take out.
3. Body (1) to chassis (2)	Two brackets (5)	Take out.
4. Chassis (2)	Body (1)	With assistance, using 10-ton overhead hoist and sling, lift off.
INSTALLATION		
5. Chassis (2)	Body (1)	With assistance, using 10-ton overhead hoist and sling, lower into position.
6. Body (1) to chassis (2)	Two brackets (5)	With assistance, place in position.

BODY, CHASSIS MODEL M105A1 – CONTINUED

LOCATION	ITEM	ACTION REMARKS
7. Two brackets (5) to body (1)	Four self-locking nuts (6), four screws (7), four flat washers (8), and four springs (9)	Using 15/16-inch socket, ratchet handle with 1/2-inch drive, and 15/16-inch box-end wrench, screw in and tighten.
8. Body (1) to chassis (2)	12 self-locking nuts (3) and 12 screws (4)	Using 15/16-inch socket, ratchet handle with 1/2-inch drive, and 15/16-inch box-end wrench, screw in and tighten.



TASK ENDS HERE

TA231113

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BODY, CHASSIS MODEL M105A2 AND M105A2C

This task covers:

a. Removal (page 4-134)
b. Installation (page 4-134)

INITIAL SETUP

Tools	Personnel Required
Handle, ratchet, 1/2-inch drive Hoist and sling, overhead, 10-ton Socket, deep, 1/2-inch drive, 3/4-inch Wrench, box-end, 3/4-inch	Two

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Body (1) to chassis (2)	Ten screws (3), ten nuts (4), and ten lockwashers (5)	Using 3/4-inch deep socket, ratchet handle with 1/2-inch drive, and 3/4-inch box-end wrench, unscrew and take out.
2. Chassis (2)	Body (1)	With assistance, using 10-ton overhead hoist and sling, lift off.
INSTALLATION		
3. Chassis (2)	Body (1)	With assistance, using 10-ton overhead hoist and sling, lower into position.
4. Body (1) to chassis (2)	Ten screws (3), ten nuts (4), and ten lockwashers (5)	Using 3/4-inch deep socket, ratchet handle with 1/2-inch drive, and 3/4-inch box-end wrench, screw in and tighten.

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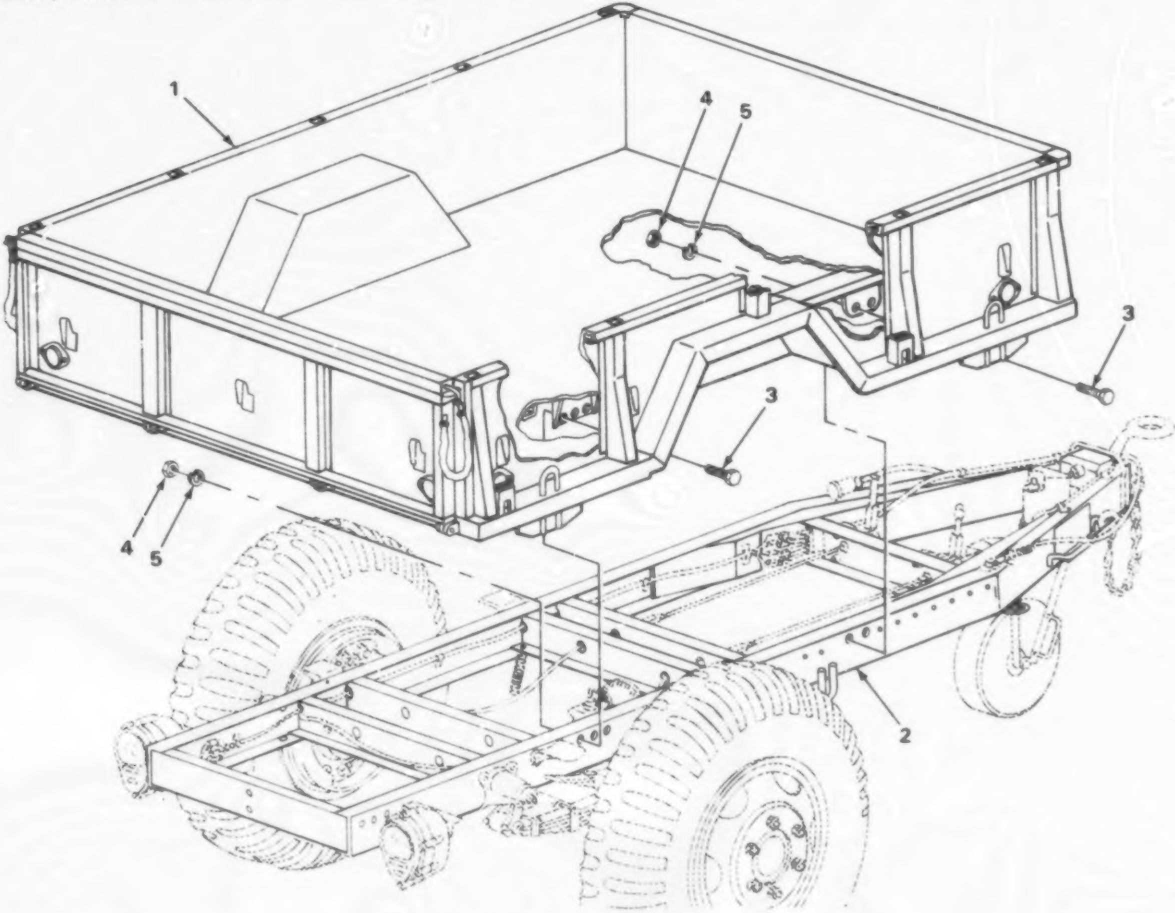
BODY, CHASSIS MODEL M105A2 AND M105A2C – CONTINUED



TA23111

TASK ENDS HERE

TAILGATE

This task covers:

- a. Removal (page 4-136)
- b. Installation (page 4-136)

INITIAL SETUP

Tools

Driftpin, brass, 1/2-inch
Hammer, ball-peen, 1-pound
Pliers, diagonal-cutting
Wrench, open-end, 7/16-inch

Materials/Parts

Cotter pins (four required)

Personnel Required

Two

TAILGATE – CONTINUED

	LOCATION	ITEM	ACTION **REMARKS**
REMOVAL			
1.	Tailgate (1) to body (2)	Two safety chain hooks (3)	Secure in closed position.

NOTE

Steps 2 and 3 are for M105A2 model only.

	LOCATION	ITEM	ACTION **REMARKS**
2.	Two bumpers (4) to tailgate (1)	Two screws (5), two lockwashers (6), and two flat washers (7)	Using 7/16-inch open-end wrench, unscrew and take out.
3.	Tailgate (1)	Two bumpers (4)	Take off.
4.	Tailgate (1) to body (2)	Four cotter pins (8) and four hinge pins (9)	Using diagonal-cutting pliers, 1-pound ball-peen hammer, and 1/2-inch brass driftpin, remove. **Discard cotter pins.**
5.	Tailgate (1) to body (2)	Two safety chain hooks (3)	Unhook. **Have assistant hold tailgate.**
6.	Body (2)	Tailgate (1)	With assistance, take off.
INSTALLATION			
7.	Body (2)	Tailgate (1)	With assistance, place in position.
8.	Tailgate (1) to body (2)	Two safety chain hooks (3)	Hook in closed position.
9.		Four new cotter pins (8) and four hinge pins (9)	Using 1-pound ball-peen hammer, 1/2-inch brass driftpin, and diagonal-cutting pliers, put in.

NOTE

Steps 10 and 11 are for M105A2 model only.

	LOCATION	ITEM	ACTION **REMARKS**
10.	Tailgate (1)	Two bumpers (4)	Place in position.
11.	Two bumpers (4) to tailgate (1)	Two screws (5), two lockwashers (6), and two flat washers (7)	Using 7/16-inch open-end wrench, screw in and tighten.

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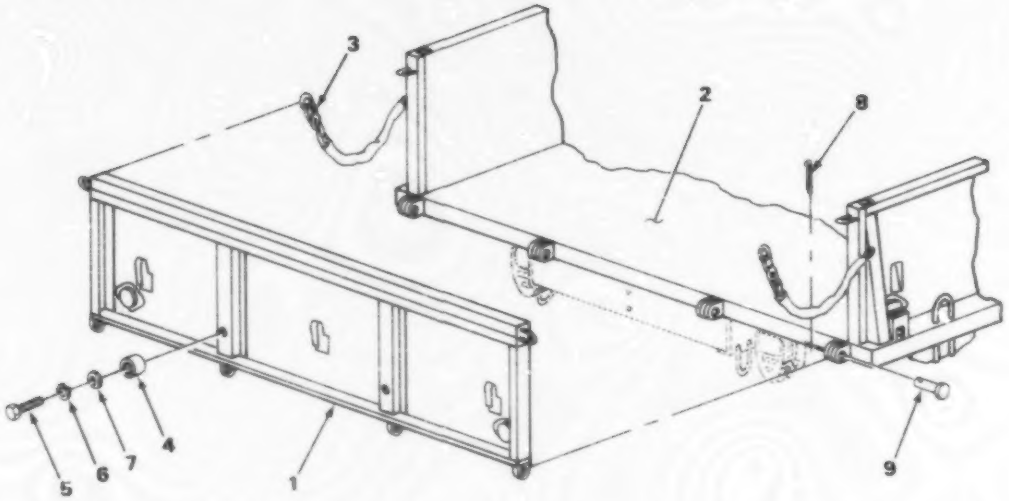
TAILGATE – CONTINUED



TASK ENDS HERE

Section XIV. WATER TANK BODY, M107 SERIES

Page
Faucets 4-137
Fender and Fender Extensions 4-152
Manhole Cover 4-149
Piping and Manifold Valve 4-141

FAUCETS

This task covers:

a. Removal (page 4-138)
b. Disassembly (page 4-138)
c. Assembly (page 4-140)
d. Installation (page 4-141)

INITIAL SETUP

Tools

File, flat
Hammer, ball-peen, 1-pound
Punch, drive-pin, 1/4-inch-point diameter
Screwdriver, flat-tip, 3/8-inch
Wrench, open-end, 7/16-inch
Wrench, open-end, 15/16-inch
Wrench, open-end, 1 5/16-inch
Wrench, open-end, 1 9/16-inch

Tools – Continued

Wrench, open-end, 1 7/8-inch
Wrench, open-end, 2 1/16-inch
Wrench, open-end, 2 1/4-inch

Materials/Parts

Gaskets
Rubber washers

TA231115

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FAUCETS - CONTINUED

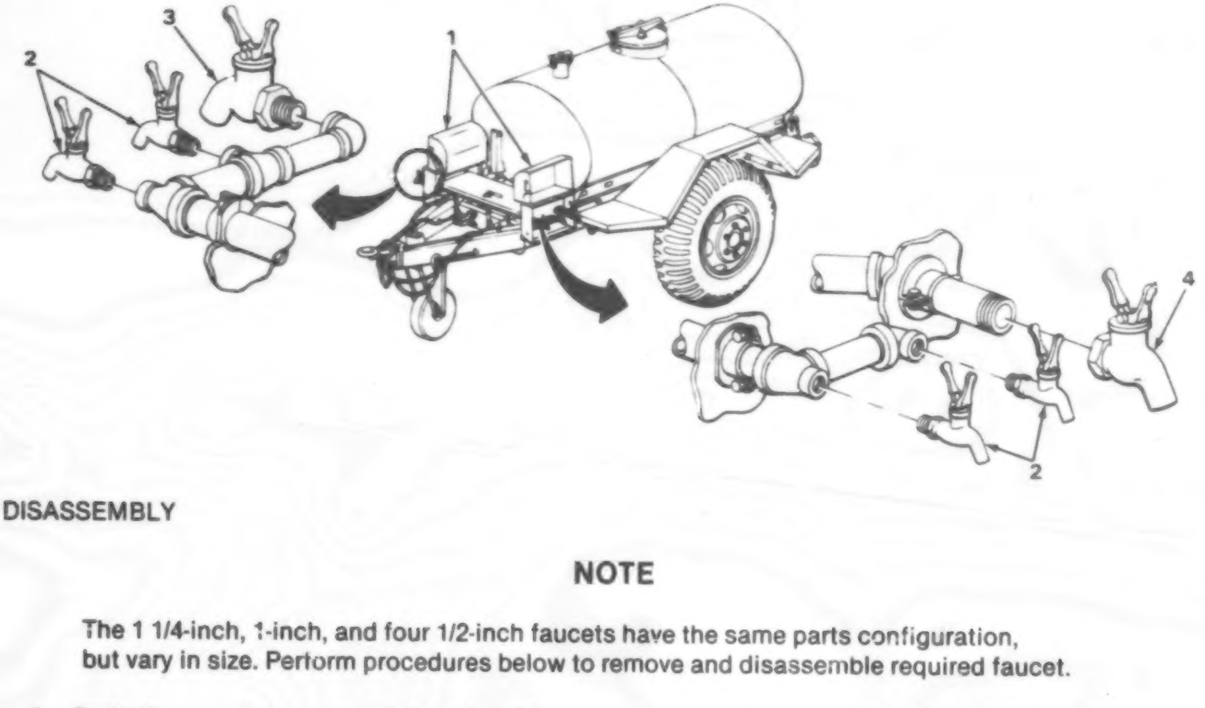
	LOCATION	ITEM	ACTION REMARKS

REMOVAL

NOTE

Make certain external valve is in the off position before doing any work on water faucets.

	LOCATION	ITEM	ACTION REMARKS
1.	Faucet boxes (1)	Four 1/2-inch faucets (2)	Using 15/16-inch open-end wrench, unscrew and take out.
2.		1-inch faucet (3)	Using 1 9/16-inch open-end wrench, unscrew and take out.
3.		1 1/4-inch faucet (4)	Using 2 1/16-inch open-end wrench, unscrew and take off.



DISASSEMBLY

NOTE

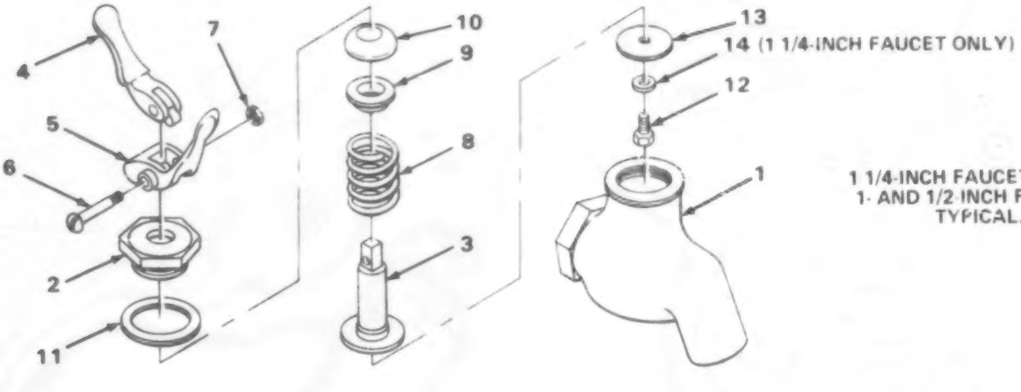
The 1 1/4-inch, 1-inch, and four 1/2-inch faucets have the same parts configuration, but vary in size. Perform procedures below to remove and disassemble required faucet.

	LOCATION	ITEM	ACTION REMARKS
4.	Body (1)	Centerpiece (2)	a. Using 1 5/16-inch open-end wrench, unscrew and take out for 1/2-inch faucets. b. Using 1 7/8-inch open-end wrench, unscrew and take out for 1-inch faucet. c. Using 2 1/4-inch open-end wrench, unscrew and take out for 1 1/4-inch faucet.

TA231116

FAUCETS – CONTINUED

	LOCATION	ITEM	ACTION **REMARKS**
5.	Stem (3) to handles (4 and 5)	Screw (6)	Using flat file, file end.
6.		Screw (6) and nut (7)	Using 7/16-inch open-end wrench and 3/8-inch flat-tip screwdriver, remove.
7.	Stem (3)	Handles (4 and 5)	Take off.
8.	Centerpiece (2)	Stem (3)	Take out.
9.	Stem (3)	Spring (8) and gland (9)	Take off.
10.	Centerpiece (2)	Disc (10)	Using 3/8-inch flat-tip screwdriver, pry out.
11.		Gasket (11)	Take off. **Discard gasket.**
12.	Stem (3)	Screw (12), rubber washer (13), and flat washer (14)	Using 3/8-inch flat-tip screwdriver, unscrew and take out. **Flat washer is an additional washer found in the 1 1/4-inch faucet only.** **Discard rubber washer.**

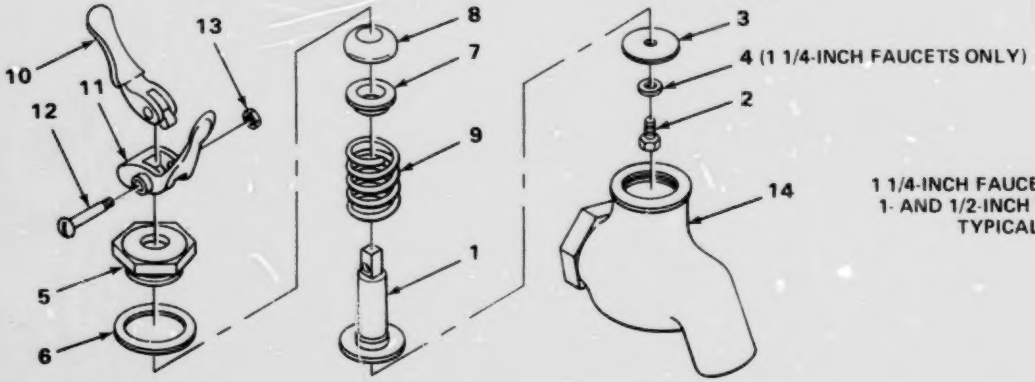


1 1/4-INCH FAUCET SHOWN.
1- AND 1/2 INCH FAUCETS
TYPICAL.

TA231117

FAUCETS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
ASSEMBLY			
13.	Stem (1)	Screw (2), new rubber washer (3), and flat washer (4)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
14.	Centerpiece (5)	New gasket (6)	Place in position.
15.	Gland (7) to centerpiece (5)	Disc (8)	Put in.
16.	Stem (1)	Spring (9) and gland (7)	Put on.
17.	Centerpiece (5)	Stem (1)	Put in.
18.	Stem (1)	Handles (10 and 11)	Place in position.
19.		Screw (12) and nut (13)	Using 7/16-inch open-end wrench and 3/8-inch flat-tip screwdriver, screw in and tighten.
20.	Stem (1) to handles (10 and 11)	Screw (12)	Using 1-pound ball-peen hammer and 1/4-inch-point diameter drive-pin punch, peen end.
21.	Body (14)	Centerpiece (5)	a. Using 1 5/16-inch open-end wrench, screw in and tighten for 1/2-inch faucets. b. Using 1 7/8-inch open-end wrench, screw in and tighten for 1-inch faucet. c. Using 2 1/4-inch open-end wrench, screw in and tighten for 1 1/4-inch faucet.

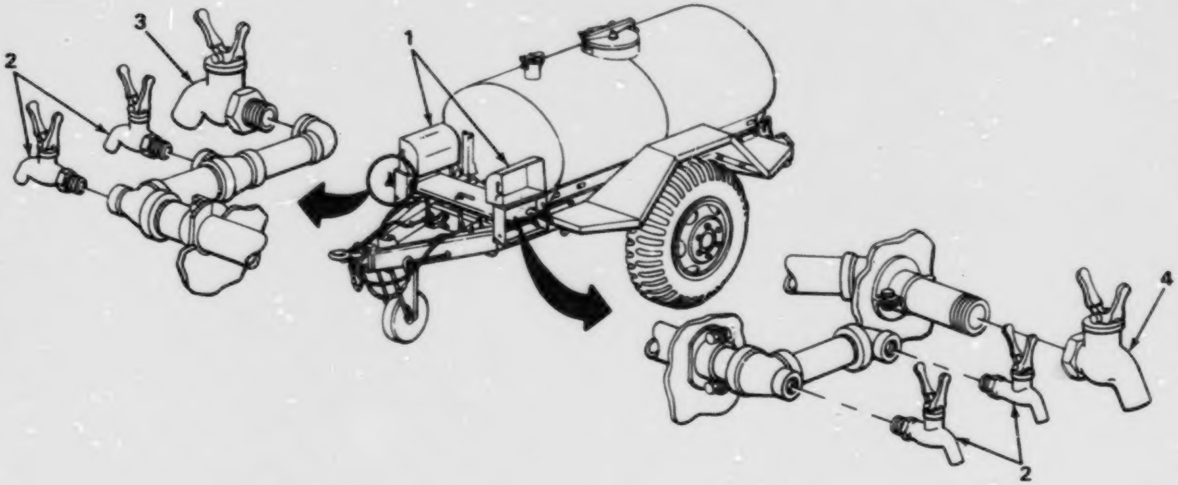


1 1/4-INCH FAUCET SHOWN.
1- AND 1/2-INCH FAUCETS
TYPICAL.

TA231118

FAUCETS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION			
22.	Faucet boxes (1)	Four 1/2-inch faucets (2)	Using 15/16-inch open-end wrench, screw in and tighten.
23.		1-inch faucet (3)	Using 1 9/16-inch open-end wrench, screw in and tighten.
24.		1 1/4-inch faucet (4)	Using 2 1/16-inch open-end wrench, screw on and tighten.



TASK ENDS HERE

PIPING AND MANIFOLD VALVE

This task covers:

a. Removal (page 4-142)
b. Installation (page 4-145)

TA231119

PIPING AND MANIFOLD VALVE – CONTINUED

INITIAL SETUP

Tools

- Extension, 3/8-inch drive, 6-inch
- Handle, ratchet, 3/8-inch drive
- Pliers, slip-joint, 7-inch
- Screwdriver, flat-tip, 3/8-inch
- Socket, 3/8-inch drive, 9/16-inch
- Wrench, open-end, 7/16-inch (two required)
- Wrench, open-end, 9/16-inch
- Wrench, pipe, 12-inch (two required)

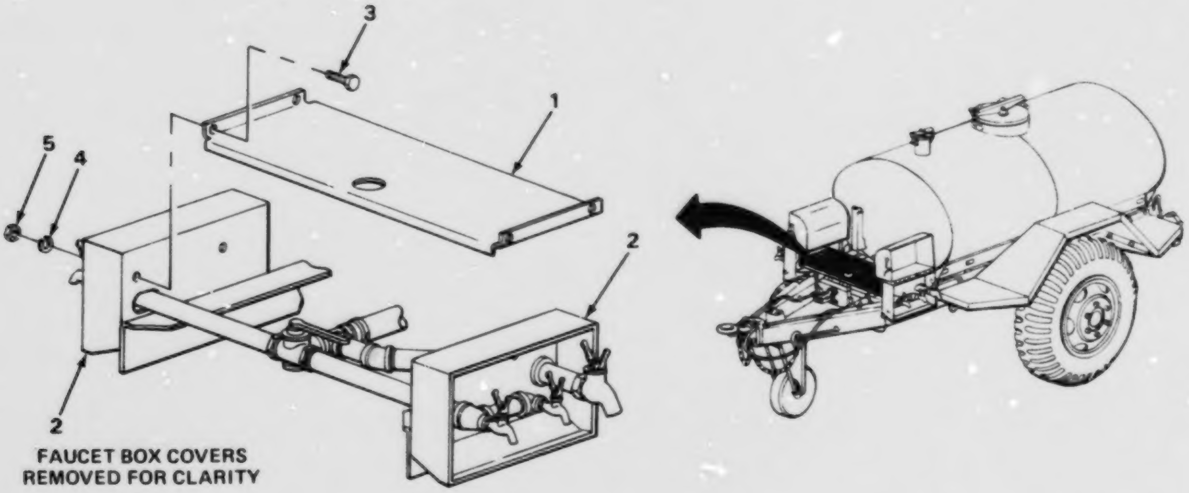
Materials/Parts

- Piping (if required)
- Rubber hose (as required)

Equipment Condition

Faucets removed (page 4-137).

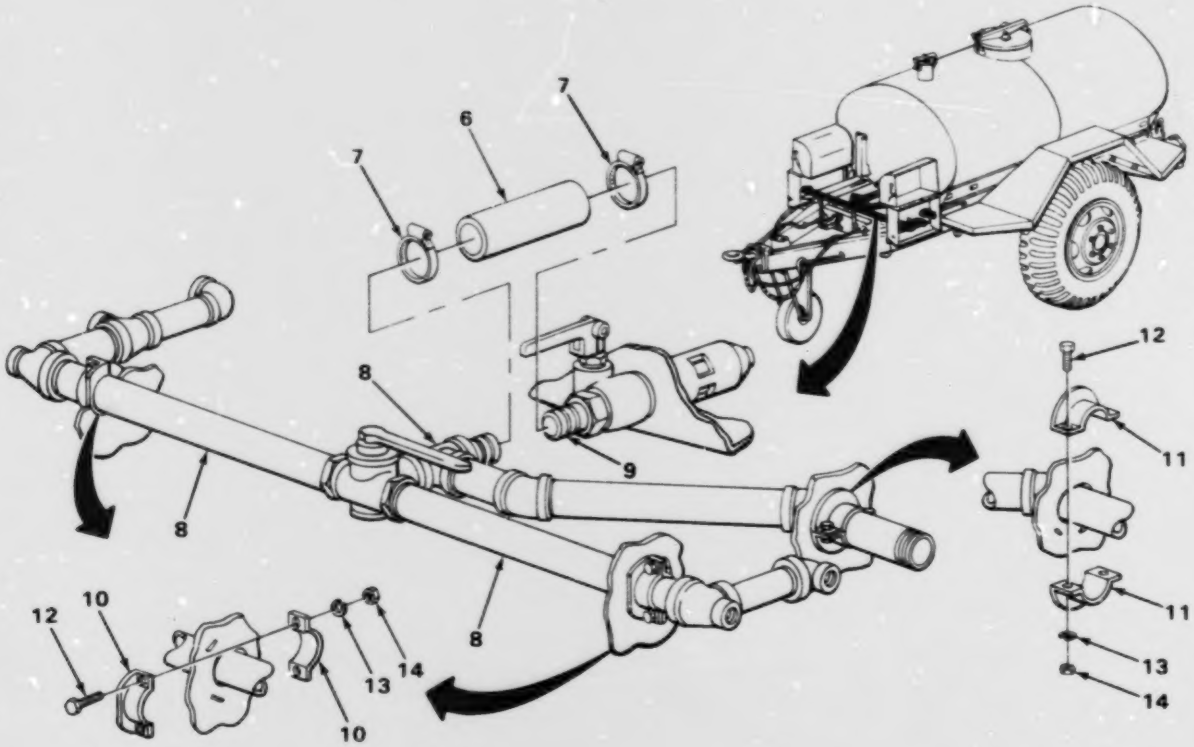
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Plate (1) to two faucet boxes (2)	Four screws (3), four lockwashers (4), and four nuts (5)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, 6-inch extension, and 9/16-inch open-end wrench, unscrew and take out.
2. Two faucet boxes (2)	Plate (1)	Take off.



FAUCET BOX COVERS REMOVED FOR CLARITY

PIPING AND MANIFOLD VALVE – CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
3. Hose (6)	Two clamps (7)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
4. Piping (8) to external valve (9)	Hose (6)	Take off. **Discard hose.**
5. Guards (10 and 11) to piping (8)	Six bolts (12), six lockwashers (13), and six nuts (14)	Using two 7/16-inch open-end wrenches, unscrew and take out.
6. Piping (8)	Guards (10 and 11)	Using 3/8-inch flat-tip screwdriver, take halves apart.



TA231121

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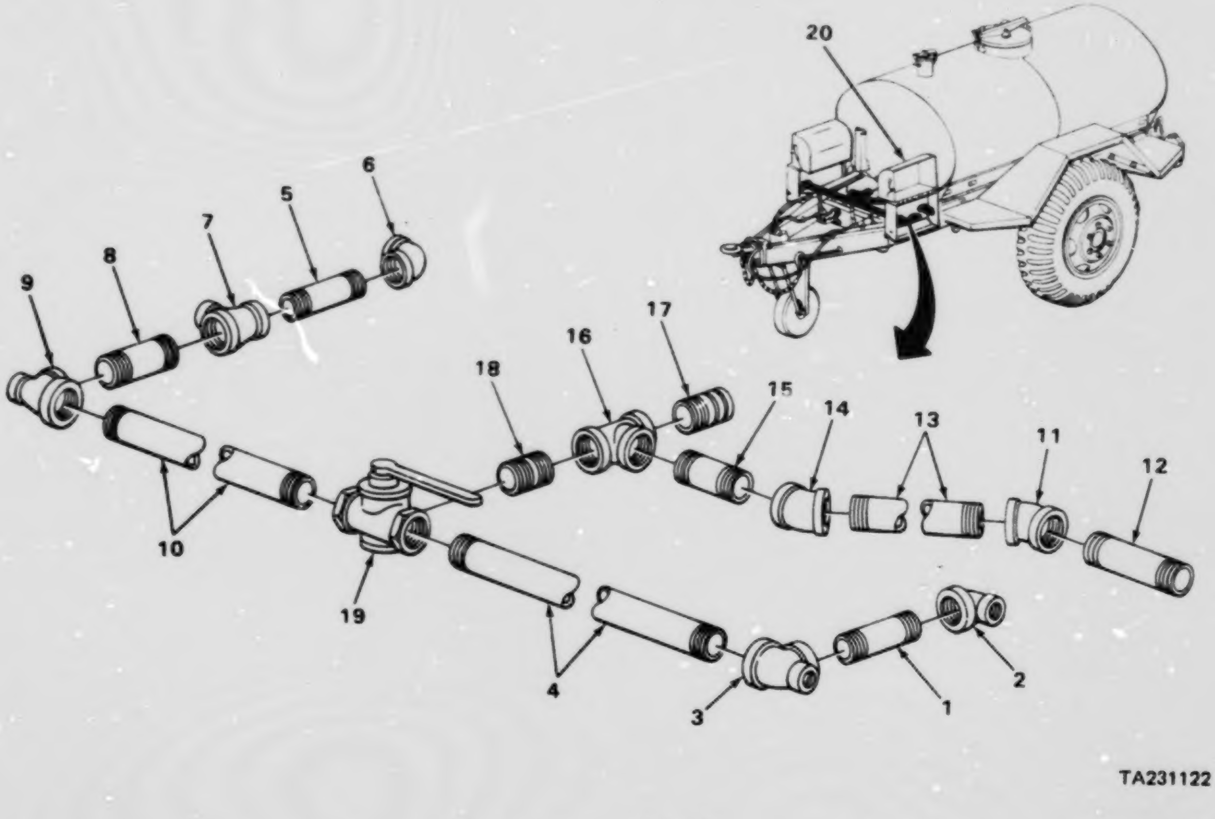
PIPING AND MANIFOLD VALVE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
7. Nipple (1)	Elbow (2)	Using two 12-inch pipe wrenches, unscrew and take off.
8. Tee (3)	Nipple (1)	Using 12-inch pipe wrench, unscrew and take out.
9. Pipe (4)	Tee (3)	Using two 12-inch pipe wrenches, unscrew and take off.
10. Nipple (5)	Elbow (6)	Using two 12-inch pipe wrenches, unscrew and take off.
11. Tee (7)	Nipple (5)	Using two 12-inch pipe wrenches, unscrew and take out.
12. Nipple (8)	Tee (7)	Using two 12-inch pipe wrenches, unscrew and take off.
13. Tee (9)	Nipple (8)	Using 12-inch pipe wrench, unscrew and take out.
14. Pipe (10)	Tee (9)	Using two 12-inch pipe wrenches, unscrew and take off.
15. Elbow (11)	Nipple (12)	Using two 12-inch pipe wrenches, unscrew and take out.
16. Nipple (13)	Elbow (11)	Using two 12-inch pipe wrenches, unscrew and take off.
17. Elbow (14)	Nipple (13)	Using two 12-inch pipe wrenches, unscrew and take out.
18. Nipple (15)	Elbow (14)	Using two 12-inch pipe wrenches, unscrew and take off.
19. Tee (16)	Nipple (15)	Using 12-inch pipe wrench, unscrew and take out.
20.	Nipple (17)	Using two 12-inch pipe wrenches, unscrew and take out.
21. Nipple (18)	Tee (16)	Using two 12-inch pipe wrenches, unscrew and take off.

188

PIPING AND MANIFOLD VALVE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
22. Manifold valve (19)	Nipple (18)	Using 12-inch pipe wrench, unscrew and take out.
23.	Pipe (10)	Using two 12-inch pipe wrenches, unscrew and take out.
24. Pipe (4)	Manifold valve (19)	Using two 12-inch pipe wrenches, unscrew and take off.
25. Faucet box (20)	Pipe (4)	Take out.
INSTALLATION		
26. Faucet box (20)	Pipe (4)	Place in position.
27. Pipe (4)	Manifold valve (19)	Using two 12-inch pipe wrenches, screw on and tighten.
28. Manifold valve (19)	Pipe (10)	Place in position and, using two 12-inch pipe wrenches, screw in and tighten.



TA231122

189

PIPING AND MANIFOLD VALVE – CONTINUED

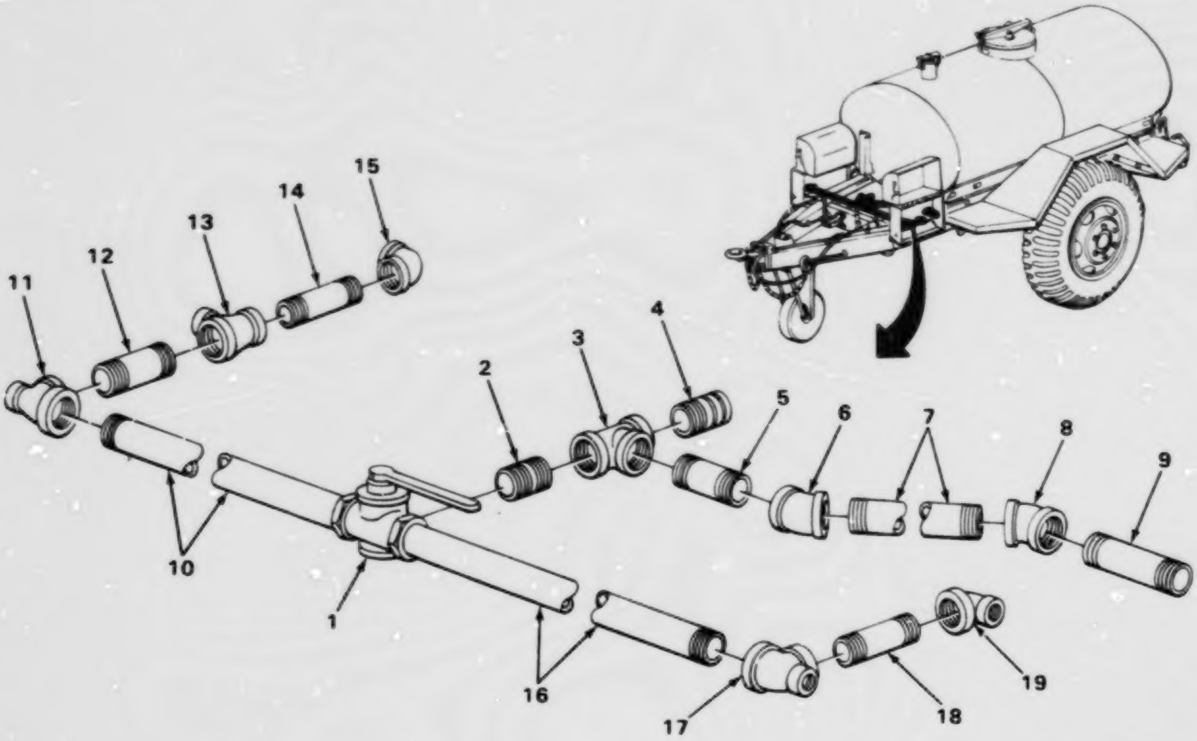
INSTALLATION – CONTINUED

LOCATION	ITEM	ACTION REMARKS
29. Manifold valve (1)	Nipple (2)	Using 12-inch pipe wrench, screw in and tighten.
30. Nipple (2)	Tee (3)	Using 12-inch pipe wrench, screw on and tighten.
31. Tee (3)	Nipple (4)	Using 12-inch pipe wrench, screw in and tighten.
32.	Nipple (5)	Using 12-inch pipe wrench, screw in and tighten.
33. Nipple (5)	Elbow (6)	Using 12-inch pipe wrench, screw on and tighten.
34. Elbow (6)	Nipple (7)	Using 12-inch pipe wrench, screw in and tighten.
35. Nipple (7)	Elbow (8)	Using 12-inch pipe wrench, screw on and tighten.
36. Elbow (8)	Nipple (9)	Using 12-inch pipe wrench, screw in and tighten.
37. Pipe (10)	Tee (11)	Using 12-inch pipe wrench, screw on and tighten.
38. Tee (11)	Nipple (12)	Using 12-inch pipe wrench, screw in and tighten.
39. Nipple (12)	Tee (13)	Using 12-inch pipe wrench, screw on and tighten.
40. Tee (13)	Nipple (14)	Using 12-inch pipe wrench, screw in and tighten.
41. Nipple (14)	Elbow (15)	Using 12-inch pipe wrench, screw on and tighten.
42. Pipe (16)	Tee (17)	Using 12-inch pipe wrench, screw on and tighten.

190

PIPING AND MANIFOLD VALVE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
43. Tee (17)	Nipple (18)	Using 12-inch pipe wrench, screw in and tighten.
44. Nipple (18)	Elbow (19)	Using 12-inch pipe wrench, screw on and tighten.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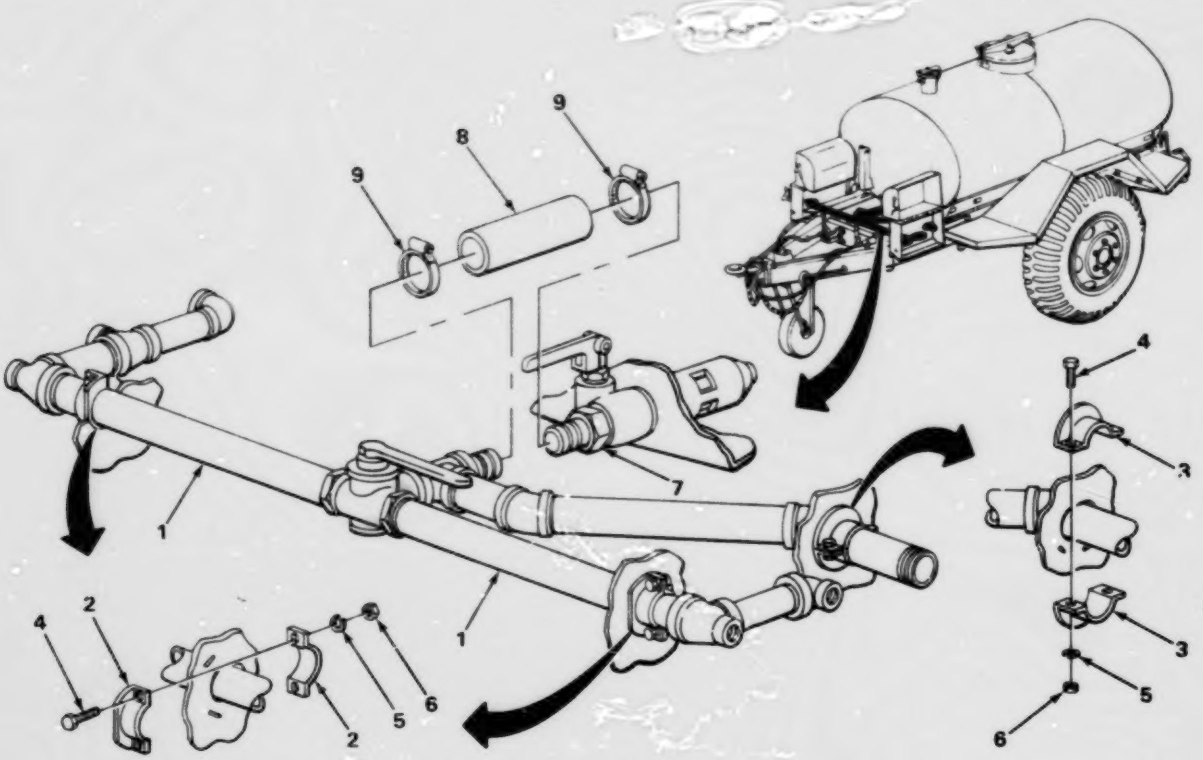
TA231123

PIPING AND MANIFOLD VALVE – CONTINUED

INSTALLATION – CONTINUED

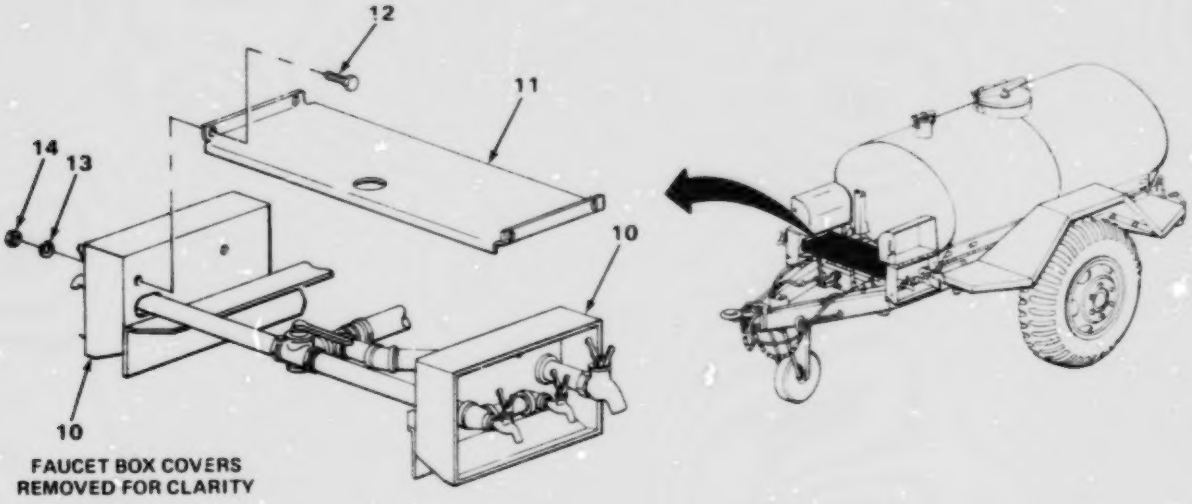
LOCATION	ITEM	ACTION REMARKS
45. Piping (1)	Three guards (2 and 3)	Using 7-inch slip-joint pliers, put halves together.
46. Three guards (2 and 3) to piping (1)	Six screws (4), six lockwashers (5), and six nuts (6)	Using two 7/16-inch open-end wrenches, screw in and tighten.
47. Piping (1) to external valve (7)	New hose (8)	Place in position.
48. Hose (8)	Two clamps (9)	Using 3/8-inch flat-tip screwdriver, put on and tighten.



TA231124

PIPING AND MANIFOLD VALVE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
49. Two faucet boxes (10)	Plate (11)	Place in position.
50. Plate (11) to two faucet boxes (10)	Four screws (12), four lockwashers (13), and four nuts (14)	Using 9/16-inch socket, ratchet handle with 3/8-inch drive, 6-inch extension, and 9/16-inch open-end wrench, screw in and tighten.



FAUCET BOX COVERS REMOVED FOR CLARITY

NOTE

FOLLOW-ON MAINTENANCE: Install faucets (page 4-137).

TASK ENDS HERE

MANHOLE COVER

This task covers:

- a. Removal (page 4-150)
- b. Disassembly (page 4-150)
- c. Assembly (page 4-151)
- d. Installation (page 4-152)

INITIAL SETUP

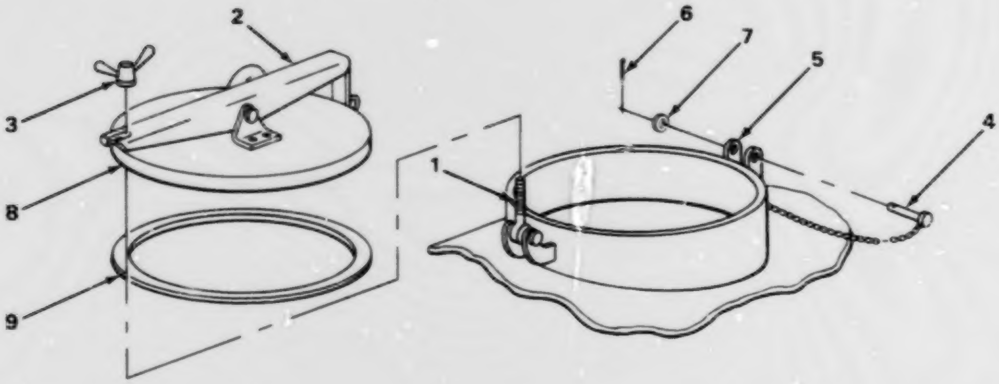
Tools	Materials/Parts
Pliers, diagonal-cutting	Cotter pins (three required) Seal

TA231125

MANHOLE COVER – CONTINUED

REMOVAL

LOCATION	ITEM	ACTION **REMARKS**
1. Eyebolt (1) to hinge (2)	Wingnut (3)	Unscrew and take off.
2. Pin (4) to bracket (5)	Cotter pin (6) and flat washer (7)	a. Using diagonal-cutting pliers, take out cotter pin. b. Take off washer. **Discard cotter pin.**
3. Bracket (5)	Pin (4)	Take out.
4.	Cover (8) and seal (9)	a. Take off cover. b. Take seal off cover. **Discard seal.**



DISASSEMBLY

LOCATION	ITEM	ACTION **REMARKS**
5. Hinge (1) to cover (2)	Cotter pin (3) and pin (4)	a. Using diagonal-cutting pliers, take out cotter pin. b. Take out pin. **Discard cotter pin.**
6. Cover (2)	Hinge (1)	Take off.
7.	Vent (5)	Unscrew and take off.
8.	Nipple (6)	Unscrew and take out.
9. Pin (7)	Cotter pin (8) and flat washer (9)	a. Using diagonal-cutting pliers, take out cotter pin. b. Take off flat washer. **Discard cotter pin.**

TA231126

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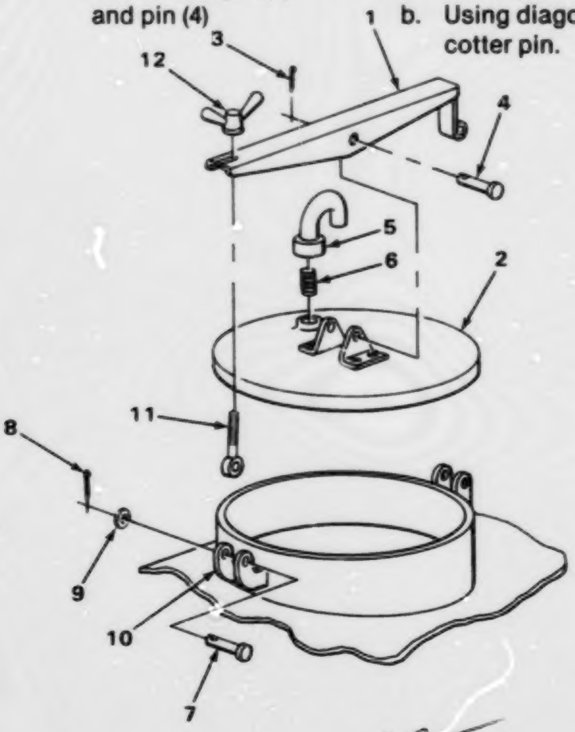
MANHOLE COVER – CONTINUED

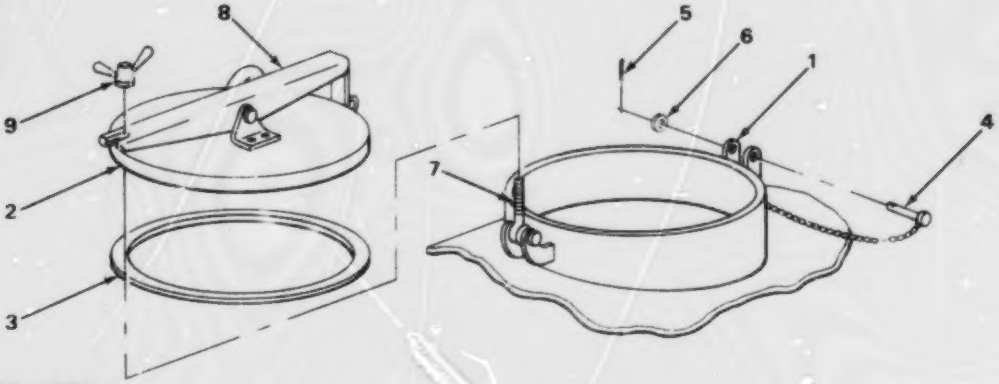
	LOCATION	ITEM	ACTION REMARKS
10.	Bracket (10) to eyebolt (11)	Pin (7)	Take out.
11.	Eyebolt (11)	Wingnut (12)	Unscrew and take off.
ASSEMBLY			
12.	Bracket (10)	Eyebolt (11) and wingnut (12)	Place in position and screw together.
13.	Eyebolt (11) to bracket (10)	Pin (7)	Place in position.
14.	Pin (7)	New cotter pin (8) and flat washer (9)	a. Put on flat washer. b. Using diagonal-cutting pliers, put in cotter pin.
15.	Cover (2)	Nipple (6)	Screw in and tighten.
16.	Nipple (6)	Vent (5)	Screw in and tighten.
17.	Cover (2)	Hinge (1)	Place in position.
18.	Cover (2) to hinge (1)	New cotter pin (3) and pin (4)	a. Put in pin. b. Using diagonal-cutting pliers, put in cotter pin.



TA231127

MANHOLE COVER – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION			
19.	Bracket (1)	Cover (2) and new seal (3)	a. Put seal on cover. b. Place cover in position.
20.		Pin (4)	Put in.
21.	Pin (4) to bracket (1)	New cotter pin (5) and flat washer (6)	a. Put on flat washer. b. Using diagonal-cutting pliers, put in cotter pin.
22.	Eyebolt (7) to hinge (8)	Wingnut (9)	Screw on and tighten.



TASK ENDS HERE

FENDER AND FENDER EXTENSIONS

This task covers:

a. Removal (page 4-153)
b. Installation (page 4-154)

INITIAL SETUP

Tools

Wrench, box-end, 3/4-inch (two required)

FA231128

FENDER AND FENDER EXTENSIONS – CONTINUED

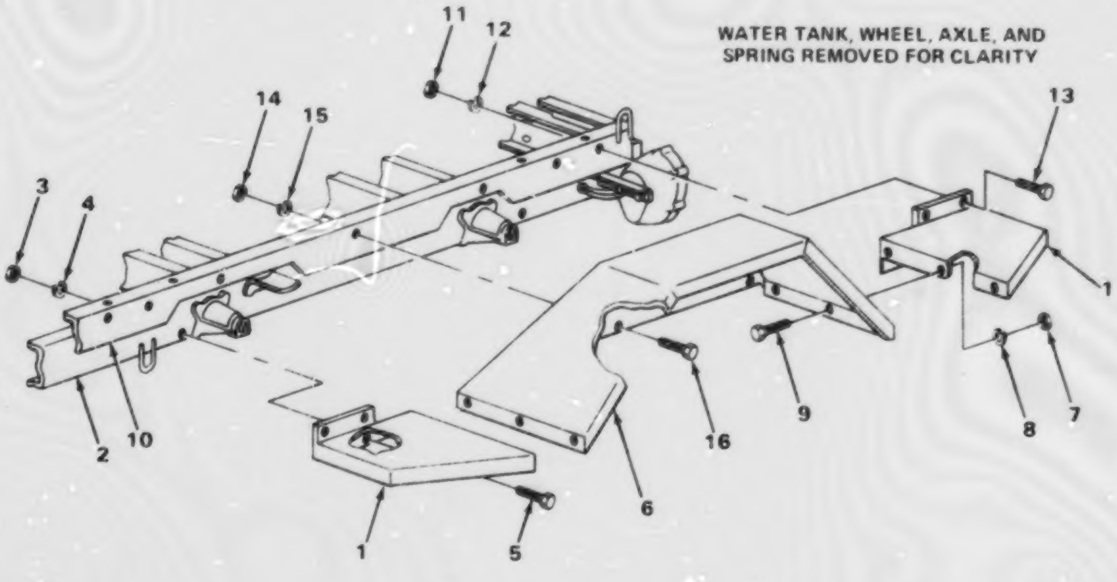
REMOVAL

	LOCATION	ITEM	ACTION REMARKS
1.	Fender extension (1) to chassis frame (2)	Nut (3), lockwasher (4), and screw (5)	Using two 3/4-inch box-end wrenches, unscrew and take out.
2.	Fender extension (1) to fender (6)	Three nuts (7), three lockwashers (8), and three screws (9)	Using two 3/4-inch box-end wrenches, unscrew and take out.
3.	Fender extension (1) to tank frame (10)	Two nuts (11), two lockwashers (12), and two screws (13)	Using two 3/4-inch box-end wrenches, unscrew and take out.
4.	Tank frame (10)	Fender extension (1)	Take off.

NOTE

Repeat steps 1 thru 4 for fender extension on other end of fender.

5.	Fender (6) to tank frame (10)	Three nuts (14), three lockwashers (15), and three screws (16)	Using two 3/4-inch box-end wrenches, unscrew and take out.
6.	Tank frame (10)	Fender (6)	Take off.



WATER TANK, WHEEL, AXLE, AND SPRING REMOVED FOR CLARITY

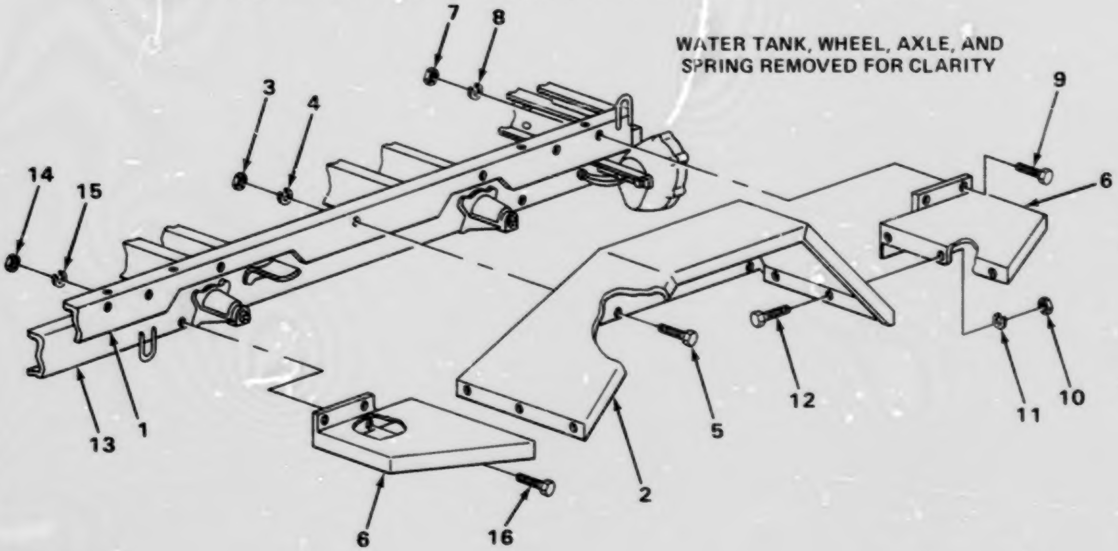
TA231129

FENDER AND FENDER EXTENSIONS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	INSTALLATION		
7.	Tank frame (1)	Fender (2)	Place in position.
8.	Fender (2) to tank frame (1)	Three nuts (3), three lockwashers (4), and three screws (5)	Using two 3/4-inch box-end wrenches, screw in and tighten.
9.	Tank frame (1)	Fender extension (6)	Place in position.
10.	Fender extension (6) to tank frame (1)	Two nuts (7), two lockwashers (8), and two screws (9)	Using two 3/4-inch box-end wrenches, screw in and tighten.
11.	Fender extension (6) to fender (2)	Three nuts (10), three lockwashers (11), and three screws (12)	Using two 3/4-inch box-end wrenches, screw in and tighten.
12.	Fender extension (6) to chassis frame (13)	Nut (14), lockwasher (15), and bolt (16)	Using two 3/4-inch box-end wrenches, screw in and tighten.

NOTE

Repeat steps 9 thru 12 for fender extension on other end of fender.



TASK ENDS HERE

TA231130

Section XV. SHOP VAN BODY, M448

	Page
Front Ventilator	4-188
Electrical Component Testing, 110-Volt	4-165
Electrical System, 110-Volt	4-155
Rear Door, Left	4-169
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Receptacle Repair	4-168
Side Door Body Seals and Bumpers	4-184
Side Door Latches	4-205
Side Doors	4-190
Side Door Upper Seals	4-201
Vent	4-202

ELECTRICAL SYSTEM, 110-VOLT

This task covers:

a. Inspection (page 4-155)
b. Removal (page 4-155)
c. Installation (page 4-160)

INITIAL SETUP

Tools	Materials/Parts
Extension, 3/8-inch drive, 3-inch	Circuit breakers (if required)
Handle, ratchet, 3/8-inch drive	Gasket
Screwdriver, cross-tip. number two	Receptacles (if required)
Screwdriver, flat-tip, 3/8-inch	Tags, marker (if required) (item 12, appendix E)
Socket, 3/8-inch drive, 7/16-inch	
Wrench, box-end, 7/16-inch	
Wrench, pipe, 12-inch	

LOCATION ITEM ACTION **REMARKS**

INSPECTION

NOTE

When performing removal procedure, visually inspect circuit breaker box for burnt wires, arcing, damaged circuit breakers, and loose connections that could cause damage to equipment. Check wires for damaged or broken insulation that may cause shorting. Replace all damaged wires and circuit breakers.

REMOVAL

WARNING

Be sure power inlet cable is disconnected from outside housing assembly before working on 110-volt electrical system or injury or loss of life may result.

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ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	REMOVAL – CONTINUED		
1.	Cover (1)	Four screws (2)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
2.	Box (3)	Cover (1)	Take off.
3.	Three wire leads (4) and jumper (5) to two receptacles (6)	Four screws (7)	Using 3/8-inch flat-tip screwdriver, loosen.

NOTE

Identify three wire leads and jumper wire to receptacles using marker tags before proceeding with step 4.

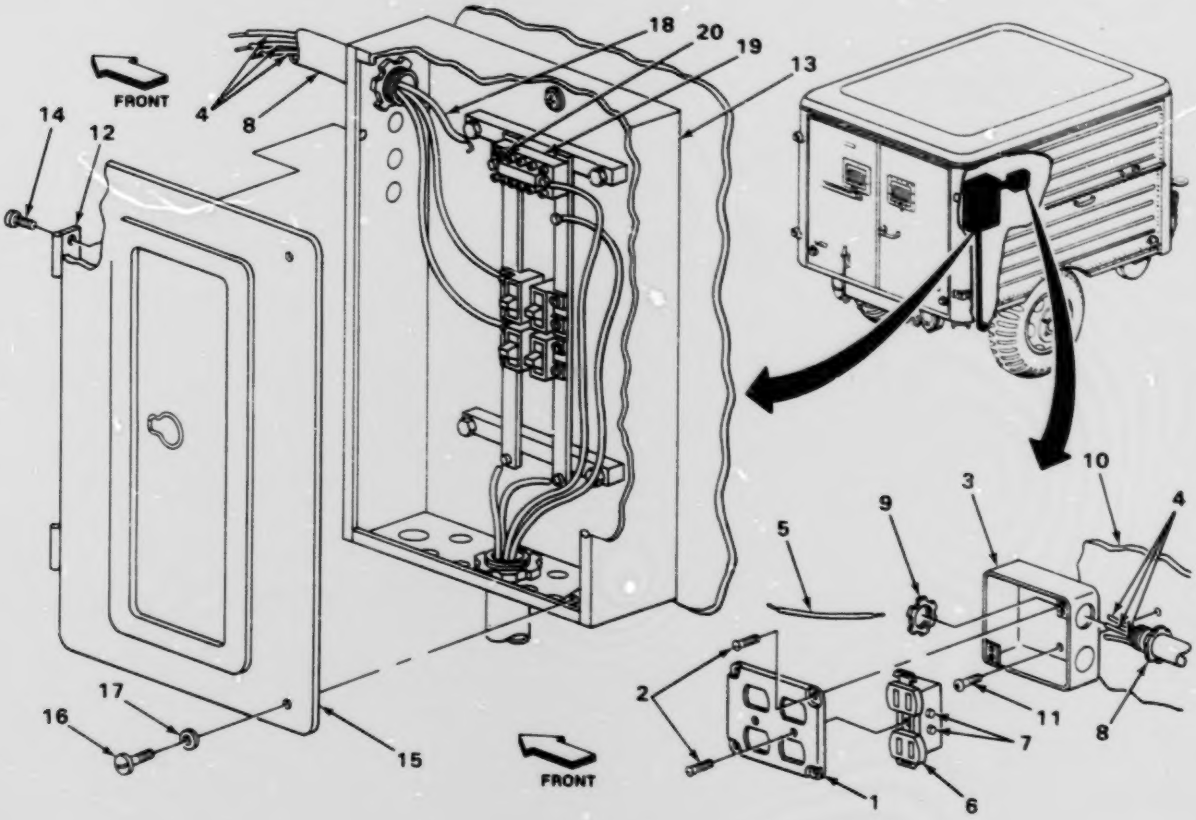
	LOCATION	ITEM	ACTION REMARKS
4.	Two receptacles (6)	Three wire leads (4) and jumper (5)	Take off.
5.	Box (3)	Two receptacles (6)	Take out. **See page 4-165 for testing.**
6.	Conduit (8) to box (3)	Connector (9)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
7.	Box (3) to wall (10)	Two screws (11)	Using number two cross-tip screwdriver, unscrew and take out.
8.	Wall (10)	Box (3)	Take off.
9.	Two hinges (12) to box (13)	Four screws (14)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
10.	Cover (15) to box (13)	Two fasteners (16) and two flat washers (17)	Using 3/8-inch flat-tip screwdriver, turn counterclockwise to release.

ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
11.	Box (13)	Cover (15)	Remove.
12.	Ground wire lead (18) to terminal board (19)	Screw (20)	Using 3/8-inch flat-tip screwdriver, loosen.

NOTE

Identify ground wire lead to terminal board and two wire leads to circuit breakers using marker tags before proceeding with steps 13 and 15.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TA231131

ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	REMOVAL – CONTINUED		
13.	Terminal board (1)	Ground wire lead (2)	Take off.
14.	Two wire leads (3) to two circuit breakers (4)	Two screws (5)	Using 3/8-inch flat-tip screwdriver, loosen.
15.	Two circuit breakers (4)	Two wire leads (3)	Take off.
16.	Two circuit breakers (4) to bus bar (6)	Two screws (7)	Using number two cross-tip screwdriver, unscrew and take out.
17.	Bus bar (6)	Two circuit breakers (4)	Take off. **See page 4-165 for testing.**

NOTE

Repeat steps 16 and 17 for two spare circuit breakers (8).

	LOCATION	ITEM	ACTION REMARKS
18.	Box (9)	Ground wire lead (2) and two wire leads (3)	Carefully take out.
19.	Conduit (10) to box (9)	Connector (11)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
20.	Box (9)	Conduit (10)	Take out.
21.	Three inlet leads (12) to bus bars (6)	Three screws (13)	Using 3/8-inch flat-tip screwdriver, loosen.
22.	Ground lead (14) to terminal board (1)	Screw (15)	Using 3/8-inch flat-tip screwdriver, loosen.

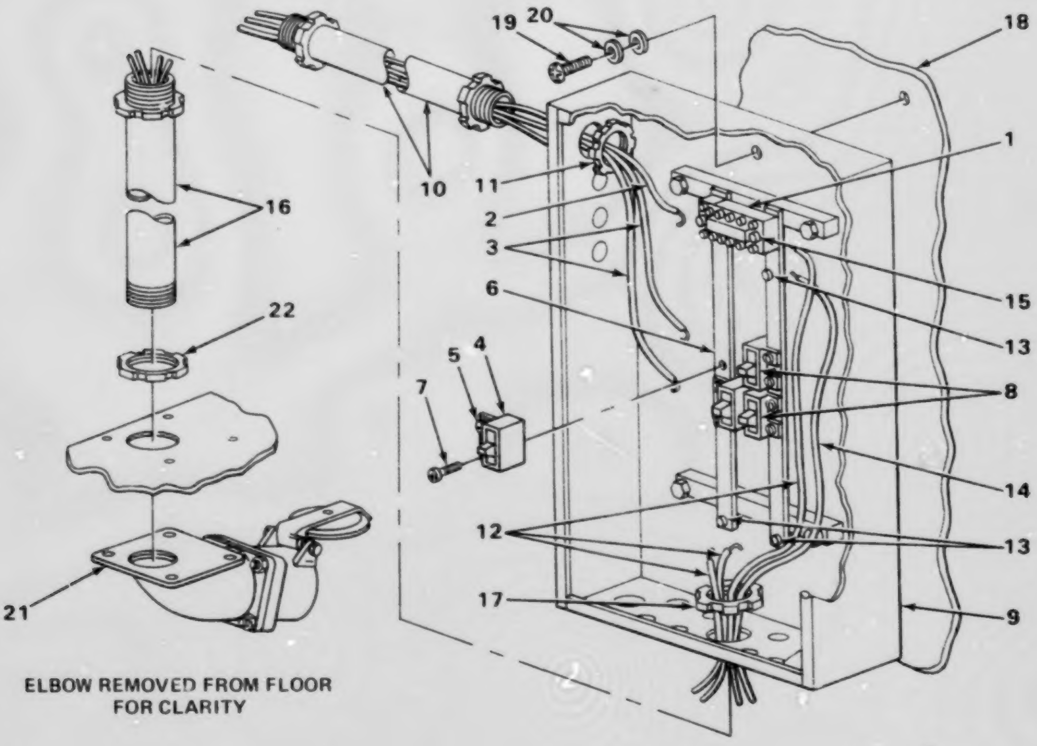
NOTE

Identify three inlet leads and ground lead using marker tags before proceeding with step 23.

202

ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
23.	Bus bars (6) and terminal board (1)	Three inlet leads (12) and ground lead (14)	Take off.
24.	Conduit (16) to box (9)	Connector (17)	Using 3/8-inch flat-tip screwdriver, unscrew and take off.
25.	Box (9) to wall (18)	Two screws (19) and two flat washers (20)	Using number two cross-tip screwdriver, unscrew and take out.
26.	Wall (18)	Box (9)	Lift off.
27.	Conduit (16) to receptacle (21)	Connector (22)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
28.	Receptacle (21)	Conduit (16) with connector (22)	Using 12-inch pipe wrench, unscrew and take out.



ELBOW REMOVED FROM FLOOR FOR CLARITY

TA231132

ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	REMOVAL – CONTINUED		
29.	Insert housing (1) to elbow (2)	Four screws (3), four lockwashers (4), and four nuts (5)	Using 3/8-inch flat-tip screwdriver and 7/16-inch box-end wrench, unscrew and take out.
30.	Elbow (2)	Insert housing (1) and gasket (6)	a. Take off housing. b. Take off gasket. **Discard gasket.**
31.		Insert (7)	Take out.

NOTE

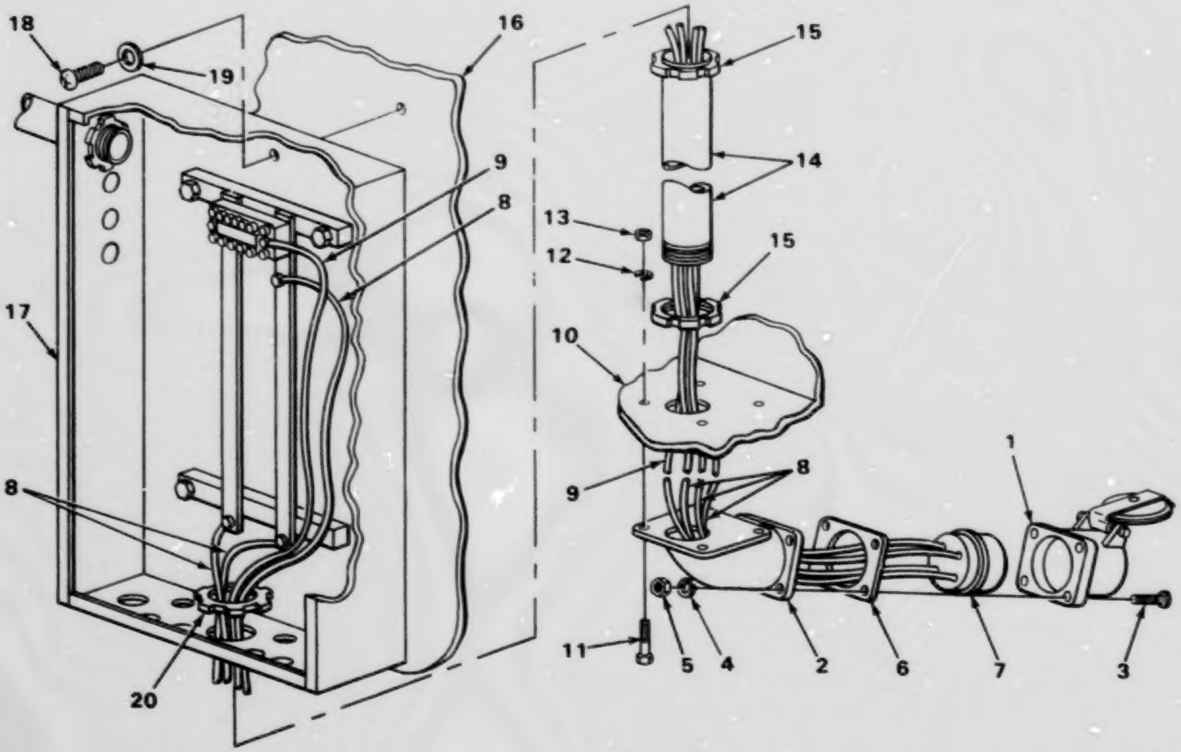
Identify three inlet leads and ground lead to insert using marking tags or sealing tape before proceeding with step 32.

32.	Insert (7)	Three inlet leads (8) and ground lead (9)	Carefully take out. **Refer to page 4-168 for repair.**
33.	Elbow (2) to floor (10)	Four screws (11), four lockwashers (12), and four nuts (13)	Using 7/16-inch socket, 3-inch extension, ratchet handle with 3/8-inch drive, and 7/16-inch box-end wrench, unscrew and take off.
34.	Floor (10)	Elbow (2)	Take off.
	INSTALLATION		
35.	Floor (10)	Elbow (2)	Place in position.
36.	Elbow (2) to floor (10)	Four screws (11), four lockwashers (12), and four nuts (13)	Using 7/16-inch socket, 3-inch extension, ratchet handle with 3/8-inch drive, and 7/16-inch box-end wrench, screw in and tighten.
37.	Insert (7)	Three inlet leads (8) and ground lead (9)	Match identifying marking tags and insert into position.
38.	Elbow (2)	Insert (7)	Place in position.
39.		Insert housing (1) and new gasket (6)	Place in position.

204

ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

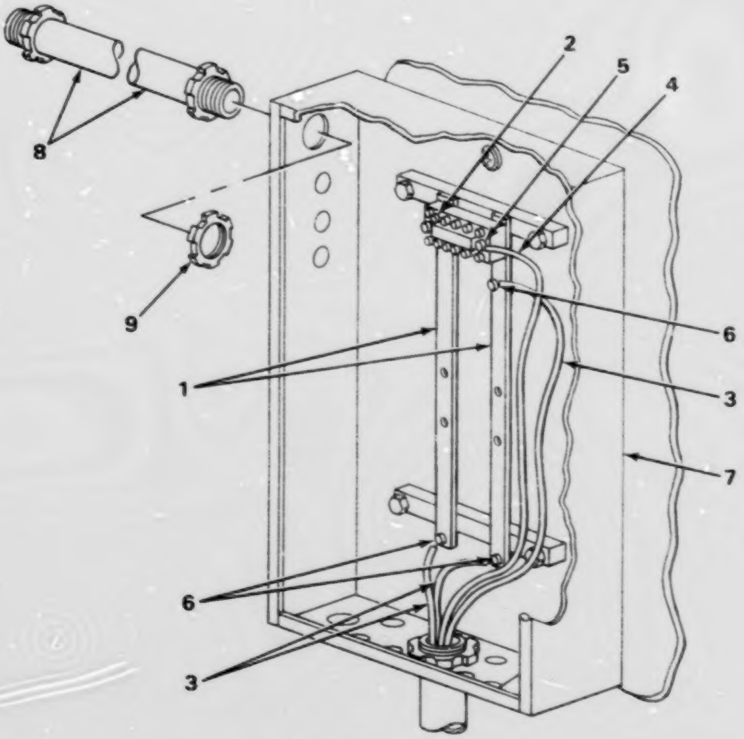
LOCATION	ITEM	ACTION REMARKS
40. Insert housing (1) to elbow (2)	Four screws (3), four lockwashers (4), and four nuts (5)	Using 3/8-inch flat-tip screwdriver and 7/16-inch box-end wrench, screw in and tighten.
41. Elbow (2)	Conduit (14) with box connector (15)	Using 12-inch pipe wrench, screw in and tighten.
42. Conduit (14) to elbow (2)	Box connector (15)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
43. Wall (16)	Box (17)	Place in position alining hole in box with conduit.
44. Box (17) to wall (16)	Two screws (18) and two flat washers (19)	Using number two cross-tip screwdriver, screw in and tighten.
45. Conduit (14) to box (17)	Locknut (20)	Start by hand and, using 3/8-inch flat-tip screwdriver, tighten.



TA231133

INSTALLATION – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
46.	Bus bars (1) and terminal board (2)	Three inlet leads (3) and ground lead (4)	Match identifying marking tags and place in position.
47.	Ground lead (4) to terminal board (2)	Screw (5)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
48.	Three inlet leads (3) to bus bars (1)	Three screws (6)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
49.	Box (7)	Conduit (8)	Place in position.
50.	Conduit (8) to box (7)	Connector (9)	Start by hand and, using 3/8-inch flat-tip screwdriver, tighten.



	LOCATION	ITEM	ACTION REMARKS
51.	Box (7)	Ground wire lead (10) and two wire leads (11)	Place in position.

TA231134

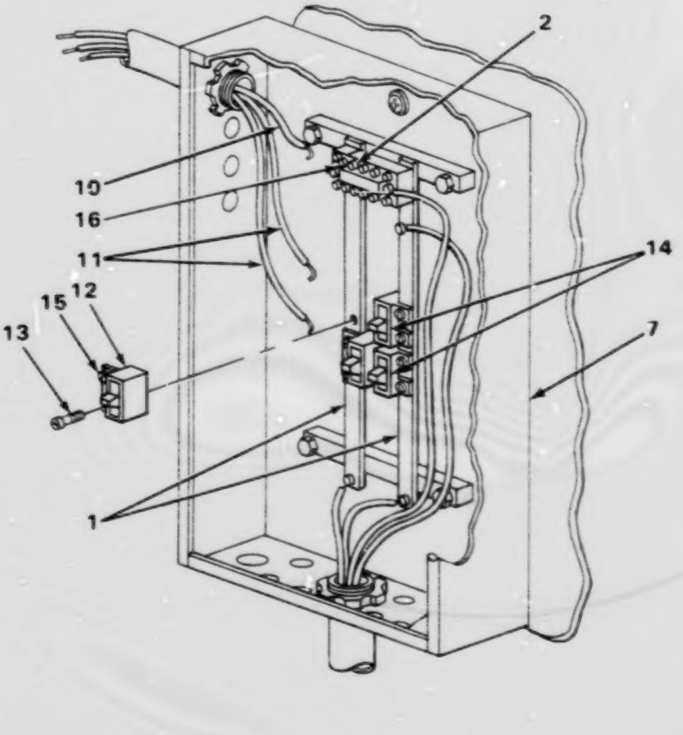
ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

LOCATION	ITEM	ACTION REMARKS
52. Bus bars (1)	Two circuit breakers (12)	Place in position.
53. Two circuit breakers (12) to bus bars (1)	Two screws (13)	Using number two cross-tip screwdriver, screw in and tighten.

NOTE

Repeat steps 52 and 53 for two spare circuit breakers (14).

LOCATION	ITEM	ACTION REMARKS
54. Two circuit breakers (12)	Two wire leads (11)	Match identifying tags and place in position.
55. Two wire leads (11) to two circuit breakers (12)	Two screws (15)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
56. Terminal board (2)	Ground wire lead (10)	Match identifying tags and place in position.
57. Ground wire lead (10) to terminal board (2)	Screw (16)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.

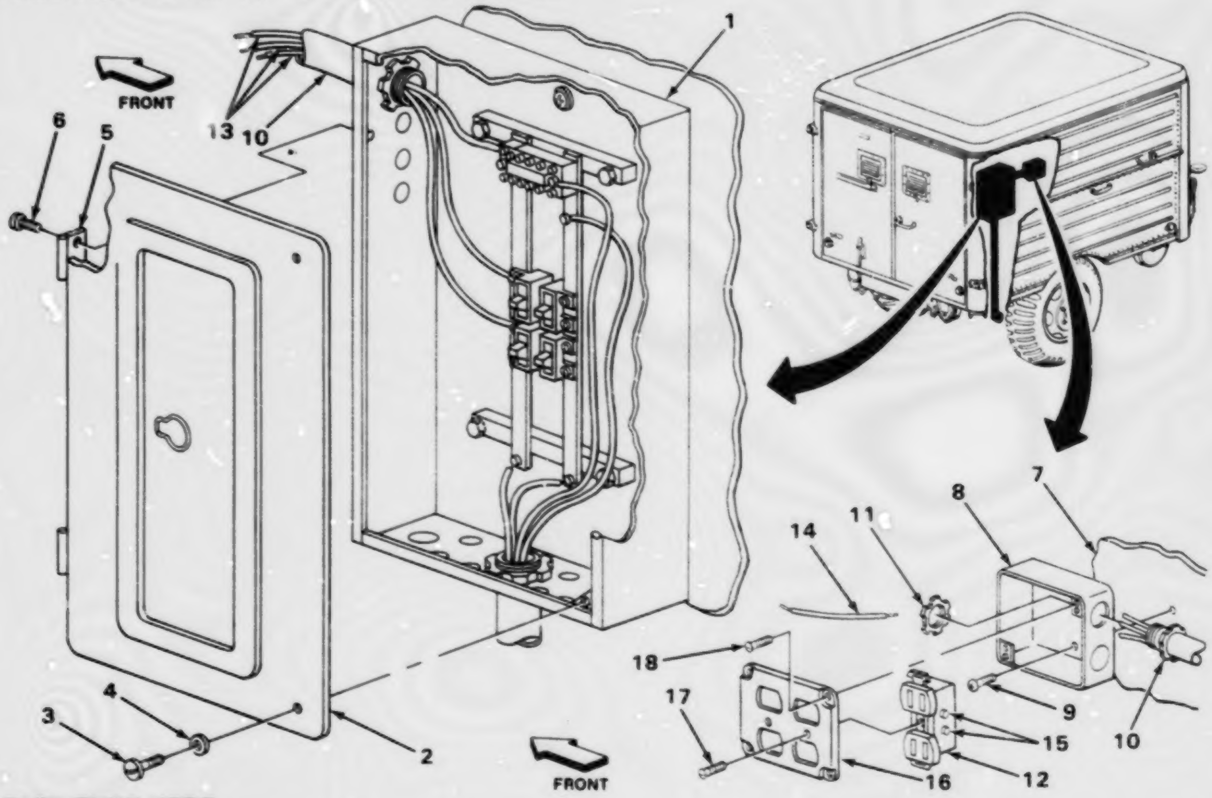


TA231135

ELECTRICAL SYSTEM, 110-VOLT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	INSTALLATION – CONTINUED		
58.	Box (1)	Cover (2)	Place in position.
59.	Cover (2) to box (1)	Two fasteners (3) and two flat washers (4)	Using 3/8-inch flat-tip screwdriver, turn clockwise.
60.	Two hinges (5) to box (1)	Four screws (6)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
61.	Wall (7)	Box (8)	Place in position.
62.	Box (8) to wall (7)	Two screws (9)	Using number two cross-tip screwdriver, screw in and tighten.
63.	Conduit (10) to box (8)	Connector (11)	Start by hand and, using 3/8-inch flat-tip screwdriver, screw in and tighten.
64.	Box (8)	Two receptacles (12)	Place in position.
65.	Two receptacles (12)	Three wire leads (13) and jumper (14)	Match identifying marking tags and place in position.
66.	Three wire leads (13) and jumper (14) to two receptacles (12)	Four screws (15)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
67.	Box (8)	Cover (16)	Place in position.
68.	Cover (16) to two receptacles (12)	Two screws (17)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
69.	Cover (16) to box (8)	Two screws (18)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.

ELECTRICAL SYSTEM, 110-VOLT – CONTINUED



TASK ENDS HERE

ELECTRICAL COMPONENT TESTING, 110-VOLT

This task covers:

a. Testing receptacle (page 4-166)
b. Testing circuit breaker (page 4-166)
c. Testing power cable (page 4-167)

INITIAL SETUP

Tools	Materials/Parts
Multimeter AN/USM-223	Circuit breaker (if required) Power cable (if required) Receptacle (if required)

NOTE

Set multimeter to lowest resistance measuring scale for all continuity checks.

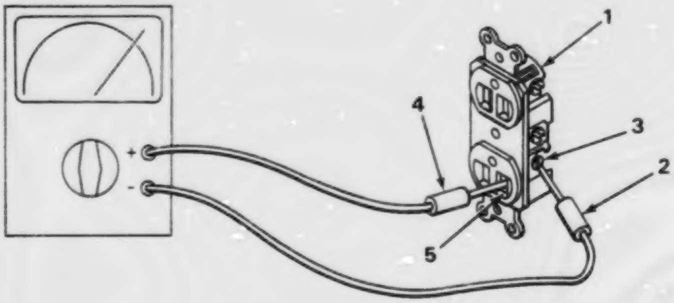
TA231136

ELECTRICAL COMPONENT TESTING 110-VOLT – CONTINUED

LOCATION	ITEM	ACTION REMARKS
TESTING RECEPTACLE		
1. Receptacle (1)	Black probe (2) and terminal screw (3)	Touch black probe to terminal screw.
2.	Red probe (4) and receptacle slot (5)	Insert red probe into receptacle slot.

NOTE

Repeat steps 1 and 2 for all receptacle slots and terminal screws. If multimeter does not indicate continuity on both sides of receptacle, replace receptacle. If multimeter indicates continuity, repeat steps 1 and 2 for both upper receptacle slots.



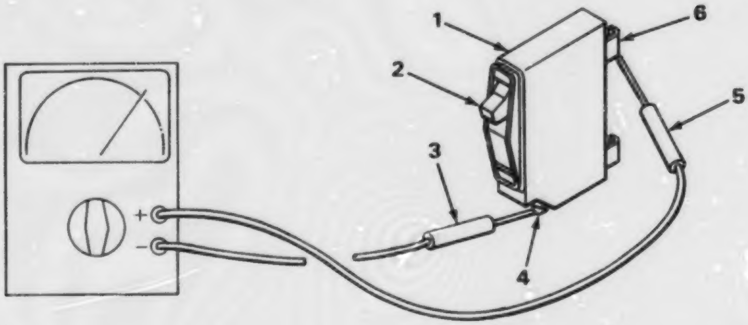
LOCATION	ITEM	ACTION REMARKS
TESTING CIRCUIT BREAKER		
3. Circuit breaker (1)	ON/OFF lever (2)	Set to ON.
4.	Black probe (3) and terminal screw (4)	Touch black probe to terminal screw.
5.	Red probe (5) and terminal (6)	Touch red probe to terminal.

NOTE

If multimeter does not indicate continuity, circuit breaker must be replaced.

TA231137

ELECTRICAL COMPONENT TESTING 110-VOLT – CONTINUED



TESTING POWER CABLE

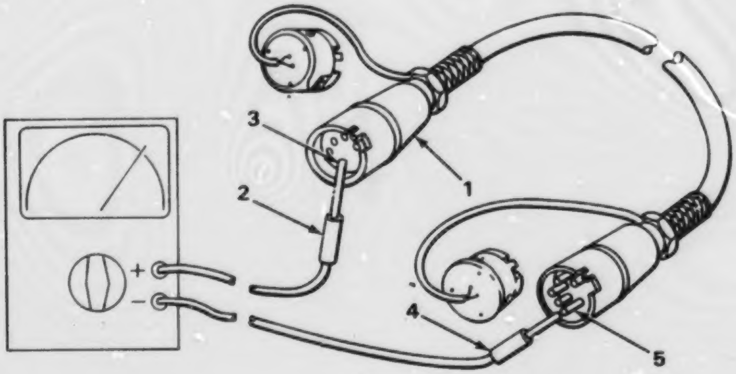
NOTE

Test the power cable by touching the associated pin or contact on each end of the cable at the same time. All pins or contacts are identified by letters.

LOCATION	ITEM	ACTION REMARKS
6. Power cable (1)	Red probe (2) and contact B (3)	Touch red probe to contact B.
7.	Black probe (4) and pin B (5)	Touch black probe to pin B.

NOTE

Repeat steps 6 and 7 for each pin and associated contact. If multimeter does not indicate continuity, replace power cable.



TASK ENDS HERE

TA231138

RECEPTACLE REPAIR

This task covers:

a. Disassembly (page 4-168)
b. Assembly (page 4-168)

INITIAL SETUP

Tools

Iron, soldering
Pliers, needle-nose
Pliers, slip-joint

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
1. Connector shell (1)	Nut (2)	Using slip-joint pliers, take off.
2.	Grommet (3)	Pull out with wires.
3. Grommet (3)	Pins (4)	Using needle-nose pliers, pull out of grommet.

NOTE

Only unsolder the leads that need to be repaired.

LOCATION	ITEM	ACTION REMARKS
4. Wire leads (5)	Pins (4)	Remove by melting solder with soldering iron.
ASSEMBLY		
5. Pins (4)	Wire leads (5)	a. Using soldering iron, heat the solder well in pin and fill with solder. b. While solder is hot, using needle-nose pliers, insert wire lead.
6. Grommet (3)	Pin (4)	Insert pin into grommet.
7. Connector shell (1)	Grommet (3)	Push grommet into connector.
8.	Nut (2)	Using slip-joint pliers, screw on.

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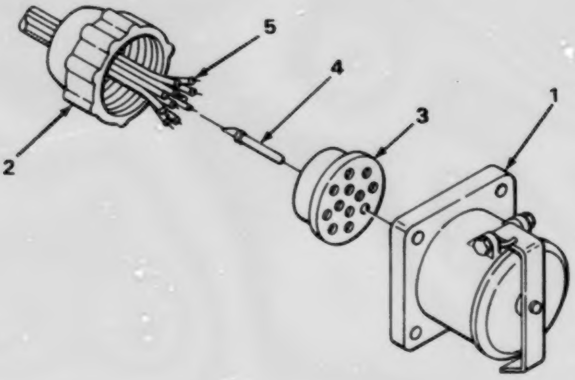
RECEPTACLE REPAIR – CONTINUED



TASK ENDS HERE

REAR DOOR, LEFT

This task covers:

a. Removal (page 4-169)	c. Assembly (page 4-172)
b. Disassembly (page 4-170)	d. Installation (page 4-174)

INITIAL SETUP

Tools

- Handle, ratchet, 3/8-inch drive
- Screwdriver, cross-tip, number two
- Socket, 3/8-inch drive, 7/16-inch
- Socket, 3/8-inch drive, 1/2-inch
- Wrench, box-end, 3/8-inch (two required)
- Wrench, box-end, 7/16-inch
- Wrench, box-end, 1/2-inch

Materials/Parts

- Seal (if required)

Personnel Required

- Two

REMOVAL

NOTE

Door must be open before beginning removal procedure.

TA231139

REAR DOOR, LEFT – CONTINUED

REMOVAL – CONTINUED

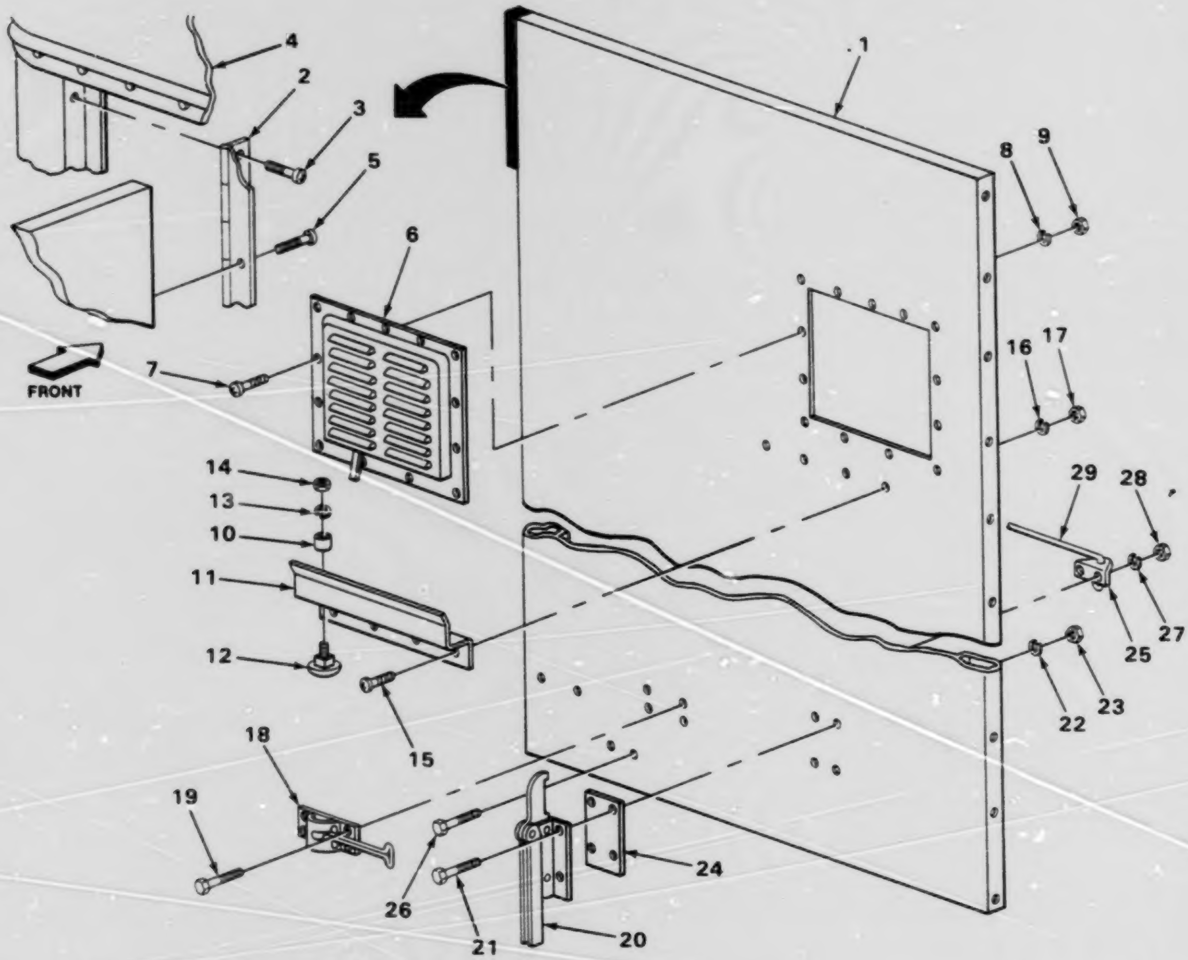
	LOCATION	ITEM	ACTION REMARKS
1.	Door (1) to hinge (2)	14 screws (3)	With assistant holding door and using number two cross-tip screwdriver, unscrew and take out.
2.	Hinge (2)	Door (1)	Take off with assistance.
3.	Hinge (2) to body (4)	14 screws (5)	Using number two cross-tip screwdriver, unscrew and take out.
4.	Body (4)	Hinge (2)	Take off.

DISASSEMBLY

	LOCATION	ITEM	ACTION REMARKS
5.	Ventilator (6) to door (1)	13 screws (7), 13 lockwashers (8), and 13 nuts (9)	Using number two cross-tip screwdriver and 3/8-inch box-end wrench, unscrew and take out.
6.	Door (1)	Ventilator (6)	Take off.
7.	Two grommets (10) to rack (11)	Two carriage bolts (12), two lockwashers (13), and two nuts (14)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
8.	Rack (11)	Two grommets (10)	Take off.
9.	Rack (11) to door (1)	Four screws (15), four lockwashers (16), and four nuts (17)	Using 7/16-inch socket, ratchet handle with 3/8-inch drive, and 7/16-inch box-end wrench, unscrew and take out.
10.	Door (1)	Rack (11)	Take off.
11.	Latch (18) to door (1)	Four screws (19)	Using 1/2-inch box-end wrench, unscrew and take out.
12.	Door (1)	Latch (18)	Take off.
13.	Clamp (20) to door (1)	Four screws (21), four lockwashers (22), and four nuts (23)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.
14.	Door (1)	Clamp (20) and pad (24)	Take off.

REAR DOOR, LEFT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
15.	Bracket (25) to door (1)	Two bolts (26), two lockwashers (27), and two nuts (28)	Using two 3/8-inch box-end wrenches, unscrew and take out.
16.	Door (1)	Bracket (25) with rod (29)	Take off.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TA231140

REAR DOOR, LEFT – CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY – CONTINUED		
17. Guide (1) to door (2)	Two screws (3) and two lockwashers (4)	Using number two cross-tip screwdriver, unscrew and take out.
18. Door (2)	Guide (1)	Take off.
19. Latch (5) to door (2)	Four screws (6) and four lockwashers (7)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
20. Door (2)	Latch (5) with rod (8) and pin (9)	Take off.
21. Retainer (10), seal (11), spacer (12), and channel (13) to door (2)	10 screws (14)	Using number two cross-tip screwdriver, unscrew and take out.
22. Door (2)	Retainer (10), seal (11), spacer (12), and channel (13)	Take off. **Discard seal.**
ASSEMBLY		
23. Door (2)	Retainer (10), new seal (11), spacer (12), and channel (13)	Place in position.
24. Retainer (10), seal (11), spacer (12), and channel (13) to door (2)	10 screws (14)	Using number two cross-tip screwdriver, screw in and tighten.
25. Door (2)	Latch (5) with rod (8) and pin (9)	Place in position.
26. Latch (5) to door (2)	Four screws (6) and four lockwashers (7)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
27. Door (2)	Guide (1)	Place in position.
28. Guide (1) to door (2)	Two screws (3) and two lockwashers (4)	Using number two cross-tip screwdriver, screw in and tighten.
29. Door (2)	Bracket (15) with rod (16)	Place in position.

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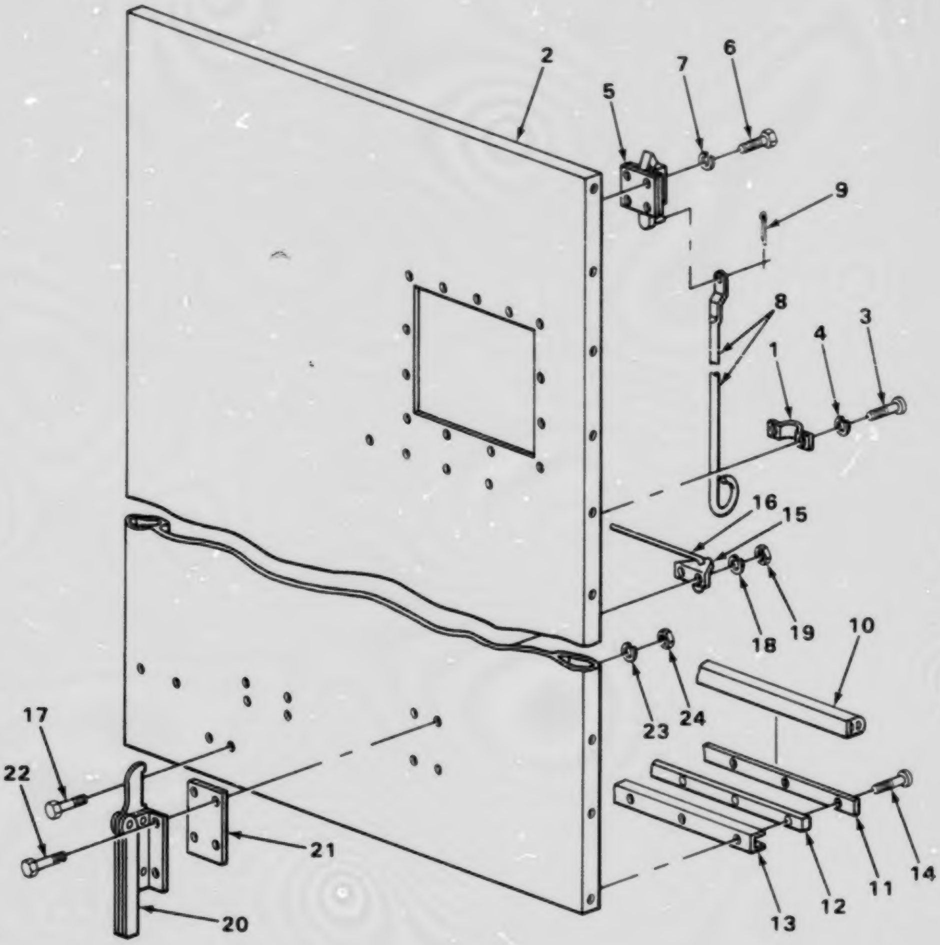
REAR DOOR, LEFT – CONTINUED

LOCATION	ITEM	ACTION REMARKS
30. Bracket (15) to door (2)	Two screws (17), two lockwashers (18), and two nuts (19)	Using number two cross-tip screwdriver and 3/8-inch box-end wrench, screw in and tighten.
31. Door (2)	Handle (20) and pad (21)	Place in position.
32. Handle (20) to door (2)	Four screws (22), four lockwashers (23), and four nuts (24)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.



TA231141

REAR DOOR, LEFT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	ASSEMBLY – CONTINUED		
33.	Door (1)	Latch (2)	Place in position.
34.	Latch (2) to door (1)	Four screws (3)	Using 1/2-inch box-end wrench, screw in and tighten.
35.	Door (1)	Rack (4)	Place in position.
36.	Rack (4) to door (1)	Four screws (5), four lockwashers (6), and four nuts (7)	Using 7/16-inch socket, ratchet handle with 3/8-inch drive, and 7/16-inch box-end wrench, screw in and tighten.
37.	Rack (4)	Two grommets (8)	Place in position.
38.	Two grommets (8) to rack (4)	Two carriage bolts (9), two lockwashers (10), and two nuts (11)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
39.	Door (1)	Ventilator (12)	Place in position.
40.	Ventilator (12) to door (1)	13 screws (13), 13 lockwashers (14), and 13 nuts (15)	Using number two cross-tip screwdriver and 3/8-inch box-end wrench, screw in and tighten.
	INSTALLATION		
41.	Body (16)	Hinge (17)	Place in position.
42.	Hinge (17) to body (16)	14 screws (18)	Using number two cross-tip screwdriver, screw in and tighten.
43.	Hinge (17)	Door (1)	Place in position with assistance.
44.	Door (1) to hinge (17)	14 screws (19)	Using number two cross-tip screwdriver, screw in and tighten.

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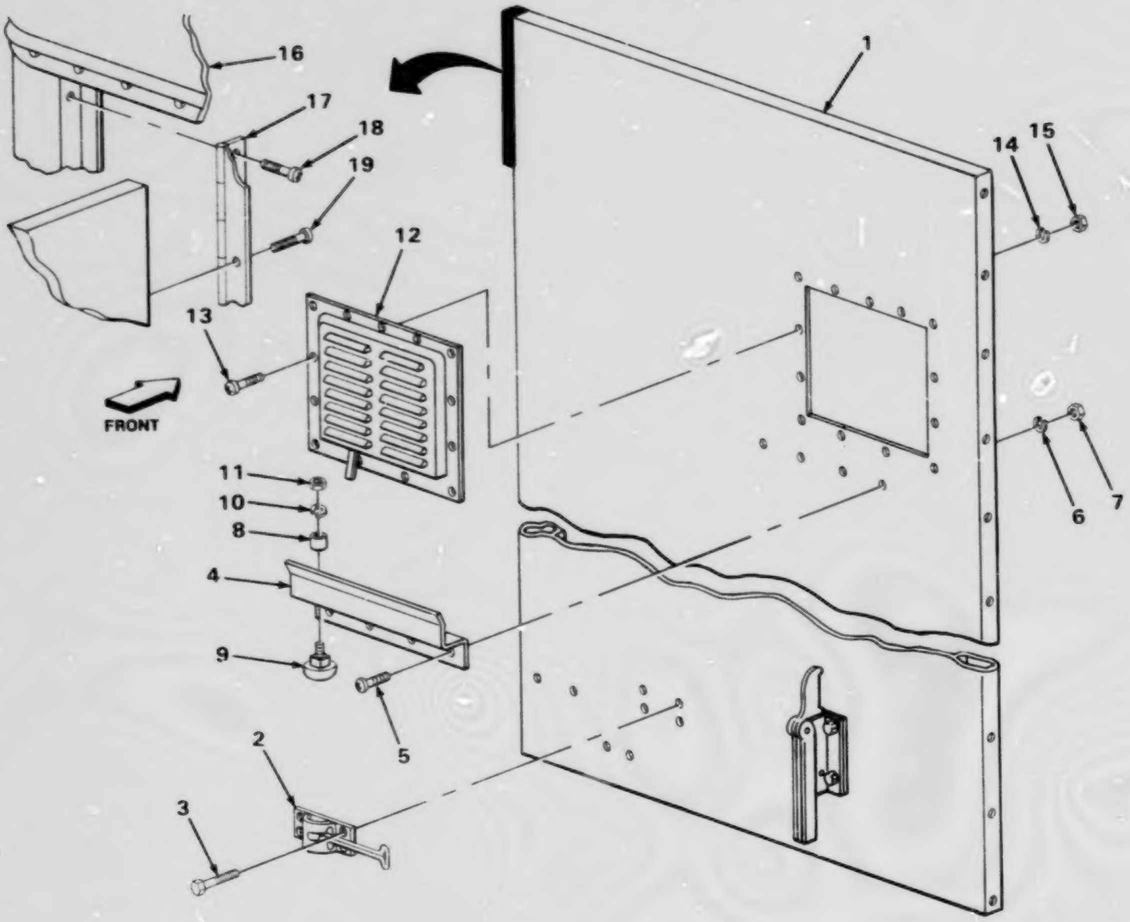
REAR DOOR, LEFT – CONTINUED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TASK ENDS HERE

TA231142

219

REAR DOOR, RIGHT

This task covers:

a. Removal (page 4-176)
b. Disassembly (page 4-176)
c. Assembly (page 4-180)
d. Installation (page 4-182)

INITIAL SETUP

Tools

- Handle, ratchet, 3/8-inch drive
- Pliers, diagonal-cutting
- Screwdriver, cross-tip, number two
- Screwdriver, flat-tip, 3/8-inch
- Socket, 3/8-inch drive, 7/16-inch
- Socket, 3/8-inch drive, 1/2-inch
- Wrench, box-end, 5/32-inch
- Wrench, box-end, 3/8-inch
- Wrench, box-end, 1/2-inch
- Wrench, box-end, 3/4-inch

Materials/Parts

- Cotter pins (two required)
- Seals (two required)

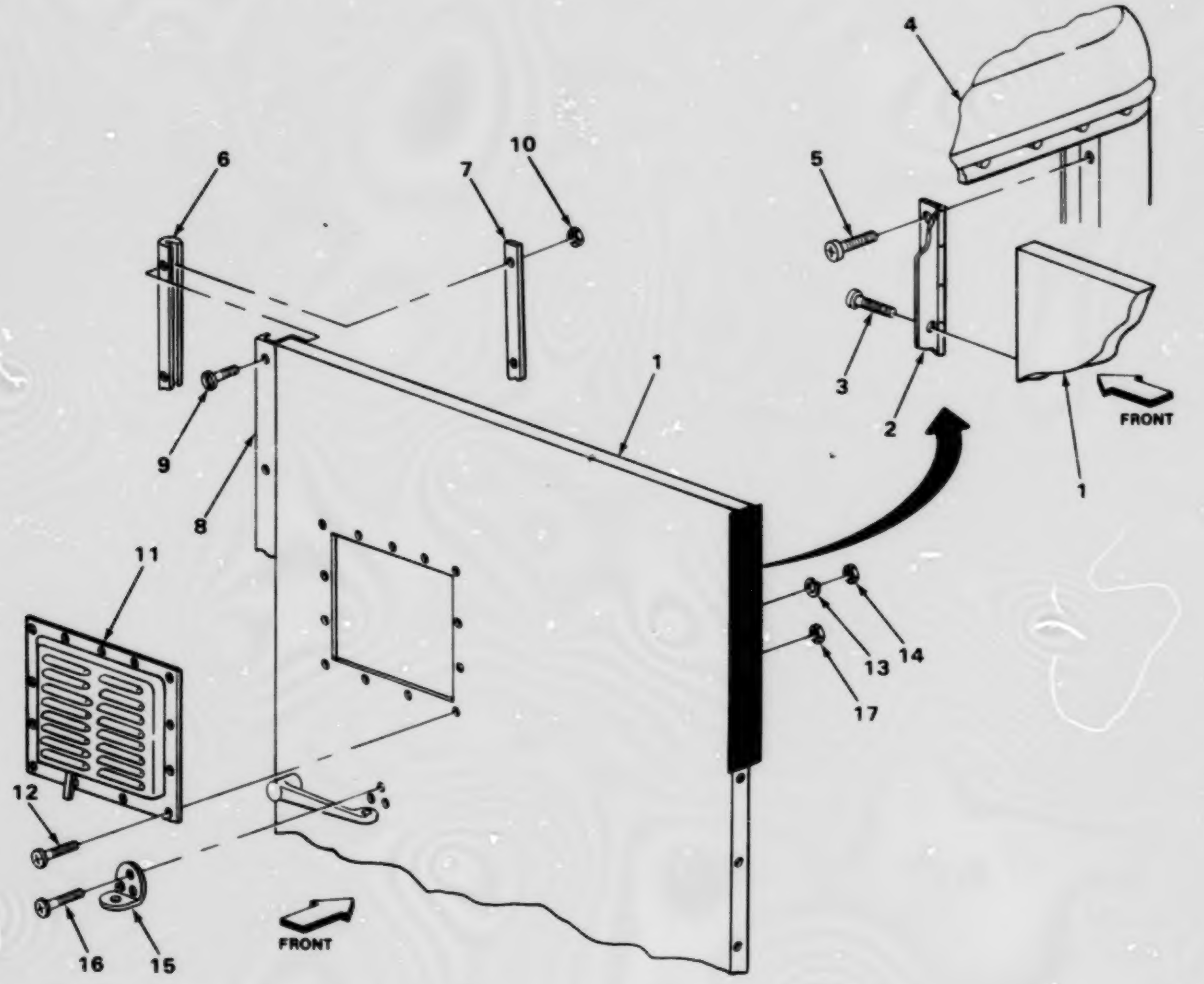
Personnel Required

Two

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Door (1) to hinge (2)	14 screws (3)	With assistant holding door and using number two cross-tip screwdriver, unscrew and take out.
2. Hinge (2)	Door (1)	Remove with assistance.
3. Hinge (2) to body (4)	14 screws (5)	Using number two cross-tip screwdriver, unscrew and take out.
4. Body (4)	Hinge (2)	Take off.
DISASSEMBLY		
5. Seal (6) and retainer plate (7) to channel (8)	16 screws (9) and 16 nuts (10)	Using 3/8-inch flat-tip screwdriver and 5/32-inch box-end wrench, unscrew and take out.
6. Channel (8)	Seal (6) and retainer plate (7)	Take off. **Discard seal.**
7. Ventilator (11) to door (1)	13 screws (12), 13 lockwashers (13), and 13 nuts (14)	Using number two cross-tip screwdriver and 3/8-inch box-end wrench, unscrew and take out.

REAR DOOR, RIGHT – CONTINUED

LOCATION	ITEM	ACTION REMARKS
8. Door (1)	Ventilator (11)	Take off.
9. Bracket (15) to door (1)	Three screws (16) and three nuts (17)	Using number two cross-tip screwdriver, 7/16-inch socket, and ratchet handle with 3/8-inch drive, unscrew and take out.
10. Door (1)	Bracket (15)	Take off.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TA231143

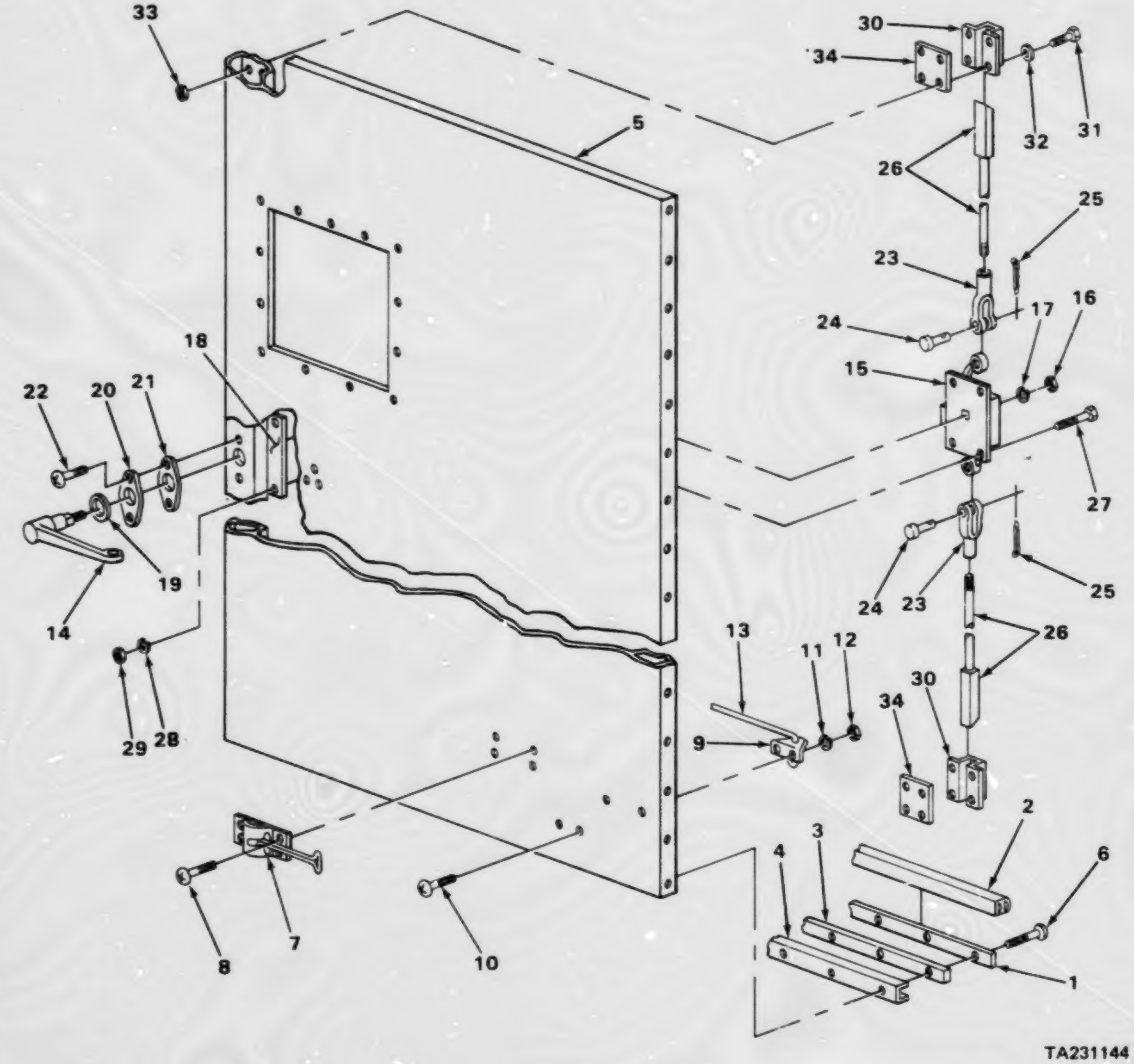
221

REAR DOOR, RIGHT – CONTINUED

	LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY – CONTINUED			
11.	Retainer (1), seal (2), spacer (3), and channel (4) to door (5)	10 screws (6)	Using number two cross-tip screwdriver, unscrew and take out.
12.	Door (5)	Retainer (1), seal (2), spacer (3), and channel (4)	Take off. **Discard seal.**
13.	Latch (7) to door (5)	Four screws (8)	Using number two cross-tip screwdriver, unscrew and take out.
14.	Door (5)	Latch (7)	Take off.
15.	Bracket (9) to door (5)	Two screws (10), two lockwashers (11), and two nuts (12)	Using number two cross-tip screwdriver and 3/8-inch box-end wrench, unscrew and take out.
16.	Door (5)	Bracket (9) with rod (13)	Take off.
17.	Handle (14) to lock (15)	Nut (16), lockwasher (17), and shim (18)	Using 3/4-inch box-end wrench, unscrew and take off.
18.	Lock (15)	Handle (14) with ring (19)	Take off.
19.	Plate (20) and seal (21) to door (5)	Two screws (22)	Using number two cross-tip screwdriver, unscrew and take out.
20.	Door (5)	Plate (20) and seal (21)	Take off.
21.	Two clevises (23) to lock (15)	Two pins (24) and two cotter pins (25)	Using diagonal-cutting pliers, take out. **Discard two cotter pins.**
22.	Lock (15)	Two clevises (23) and two rods (26)	Take off.
23.	Lock (15) to door (5)	Four screws (27), four lockwashers (28), and two nuts (29)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.
24.	Door (5)	Lock (15)	Take off.

REAR DOOR, RIGHT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
25.	Upper and lower guide (30) to door (5)	Eight screws (31), eight lockwashers (32), and eight nuts (33)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
26.	Door (5)	Upper and lower guide (30) and two shims (34)	Take off.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REAR DOOR, RIGHT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	ASSEMBLY		
27.	Door (1)	Upper and lower guide (2) and two shims (3)	Place in position.
28.	Upper and lower guide (2) to door (1)	Eight screws (4), eight lockwashers (5), and eight nuts (6)	Using 7/16-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
29.	Door (1)	Lock (7) and shim (8)	Place in position.
30.	Lock (7) to door (1)	Four screws (9), four lockwashers (10), and two nuts (11)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw on and tighten.
31.	Lock (7)	Two clevises (12) and two rods (13)	Place in position.
32.	Two clevises (12) to lock (7)	Two pins (14) and two new cotter pins (15)	Put pins in place and, using diagonal-cutting pliers, put in two cotter pins.
33.	Door (1)	Plate (16) and seal (17)	Place in position.
34.	Plate (16) and seal (17) to door (1)	Two screws (18)	Using number two cross-tip screwdriver, screw in and tighten.
35.	Lock (7)	Handle (19) with ring (20)	Place in position.
36.	Handle (19) to lock (7)	Nut (21) and lockwasher (22)	Using 3/4-inch box-end wrench, screw on and tighten.
37.	Door (1)	Bracket with rod (23)	Place in position.
38.	Bracket with rod (23) to door (1)	Two screws (24), two lockwashers (25), and two nuts (26)	Using number two cross-tip screwdriver and 3/8-inch box-end wrench, screw in and tighten.
39.	Door (1)	Latch (27) and four screws (28)	Place in position and, using number two cross-tip screwdriver, screw in and tighten.

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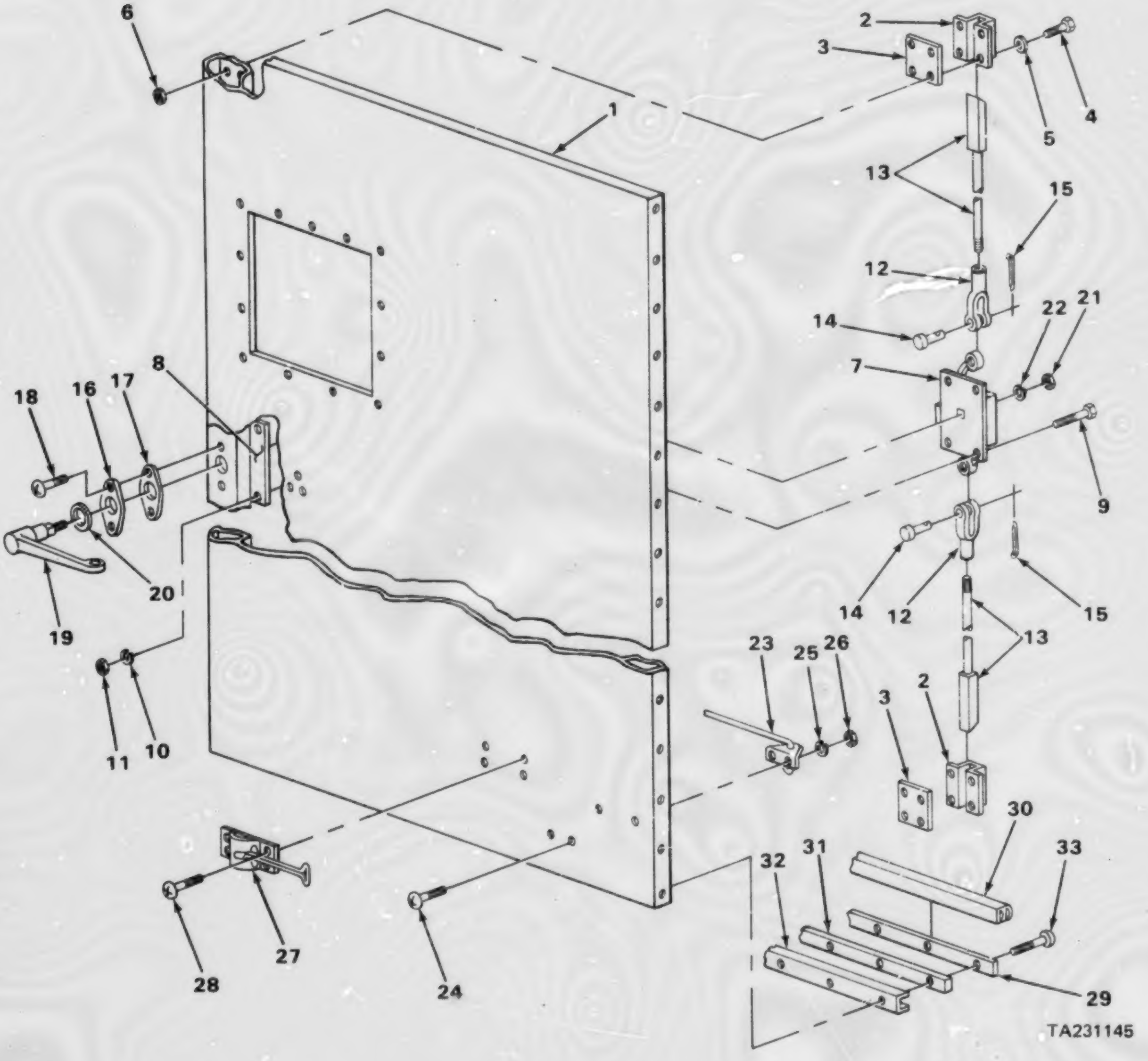
REAR DOOR, RIGHT – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
40.	Door (1)	Retainer (29), new seal (30), spacer (31), and channel (32)	Place in position.
41.	Retainer (29), seal (30), spacer (31), and channel (32) to door (1)	10 screws (33)	Using number two cross-tip screwdriver, screw in and tighten.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TA231145

REAR DOOR, RIGHT – CONTINUED

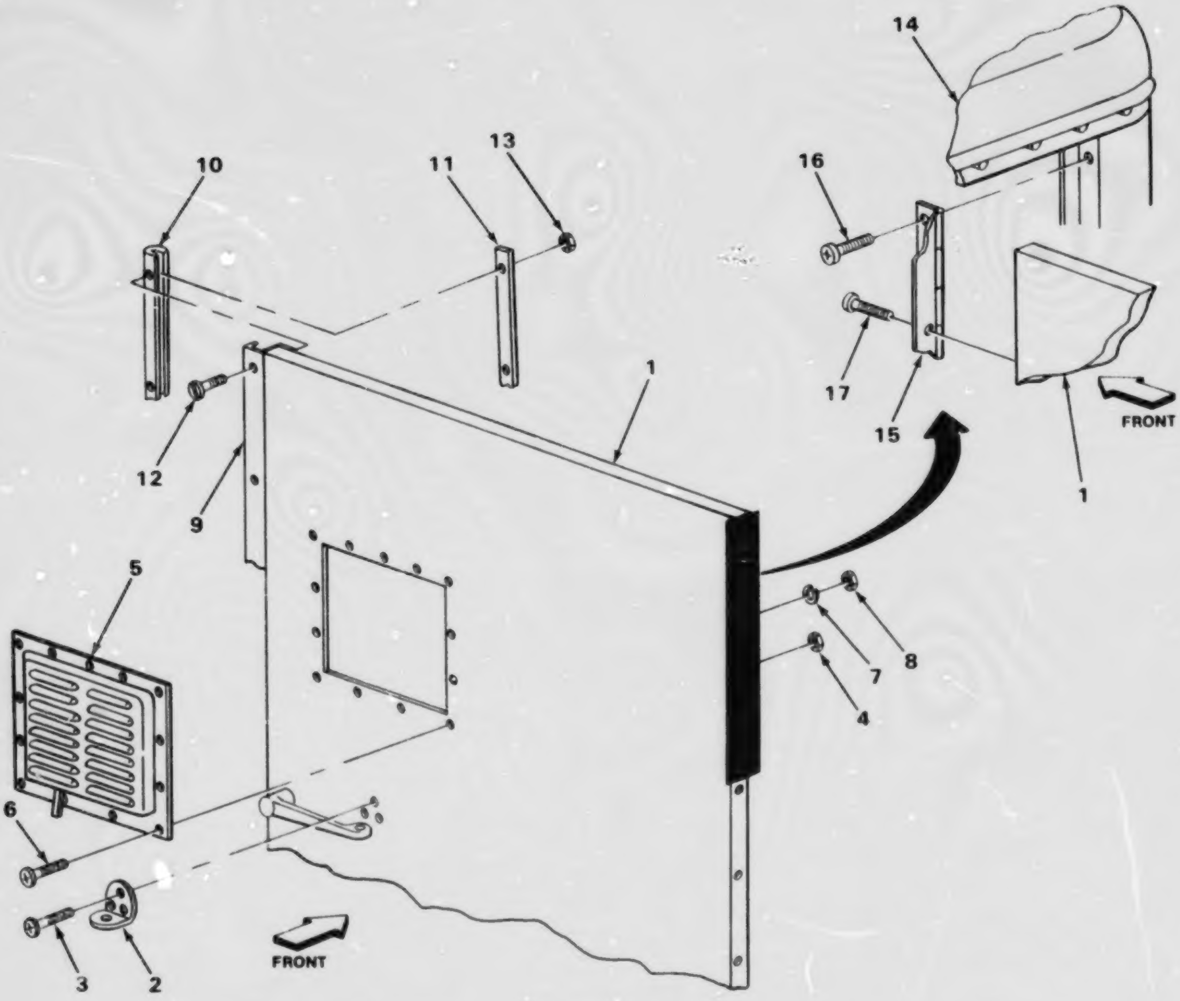
ASSEMBLY – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
42.	Door (1)	Bracket (2)	Place in position.
43.	Bracket (2) to door (1)	Three screws (3) and three nuts (4)	Using number two cross-tip screwdriver, 7/16-inch socket, and ratchet handle with 3/8-inch drive, screw on and tighten.
44.	Door (1)	Ventilator (5)	Place in position.
45.	Ventilator (5) to door (1)	13 screws (6), 13 lockwashers (7), and 13 nuts (8)	Using number two cross-tip screwdriver and 3/8-inch box-end wrench, screw in and tighten.
46.	Channel (9)	New seal (10) and retainer plate (11)	Place in position.
47.	Seal (10) and retainer plate (11) to channel (9)	16 screws (12) and 16 nuts (13)	Using 3/8-inch flat-tip screwdriver and 5/32-inch box-end wrench, screw in and tighten.

INSTALLATION

	LOCATION	ITEM	ACTION REMARKS
48.	Body (14)	Hinge (15)	Place in position.
49.	Hinge (15) to body (14)	14 screws (16)	Using number two cross-tip screwdriver, screw in and tighten.
50.	Hinge (15)	Door (1)	Place in position with assistance.
51.	Door (1) to hinge (15)	14 screws (17)	Using number two cross-tip screwdriver, screw in and tighten.

REAR DOOR, RIGHT – CONTINUED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TASK ENDS HERE

TA231146

227

SIDE DOOR BODY SEALS AND BUMPERS

This task covers:

a. Removal (page 4-184)
b. Installation (page 4-186)

INITIAL SETUP

Tools	Materials/Parts
Handle, ratchet, 3/8-inch drive	Door bumpers (two required)
Screwdriver, cross-tip, number two	Seals (four required)
Screwdriver, flat-tip, 3/8-inch	
Socket, 3/8-inch drive, 1/2-inch	
Wrench, box-end, 1/2-inch	
Wrench, open-end, 3/8-inch	
Wrench, open-end, 7/16-inch	

REMOVAL

NOTE

There are four door body seals and two door bumpers with clips. The procedures here are typical for all.

For ease of accessibility to working area, all doors should be open.

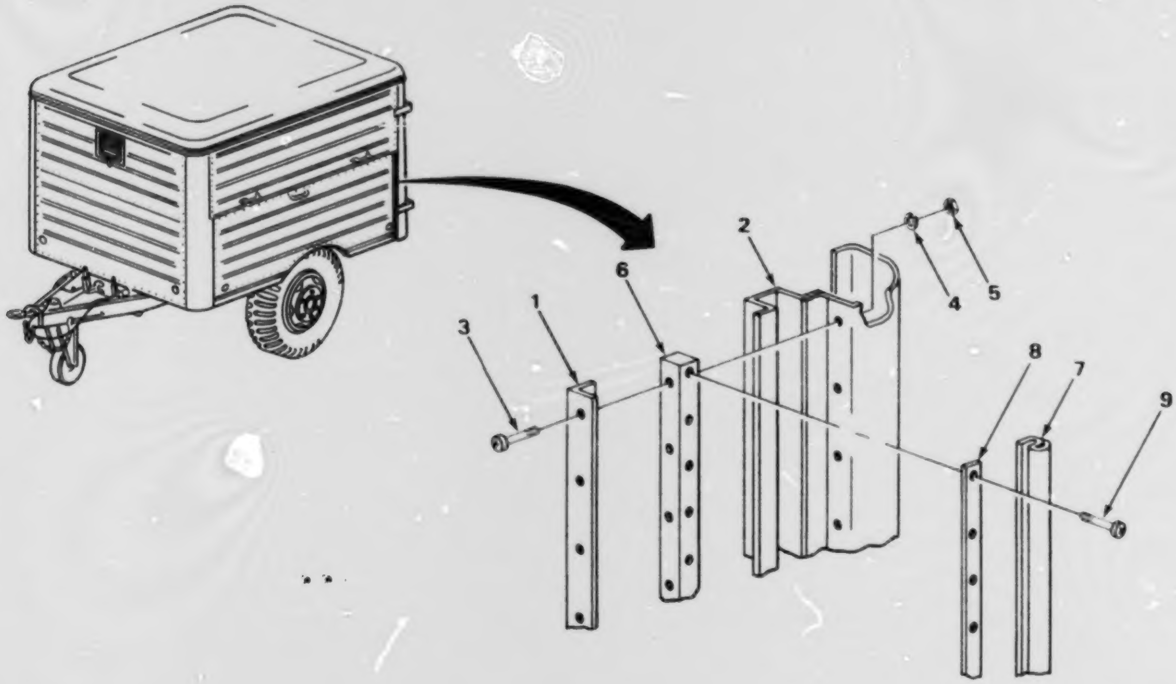
	LOCATION	ITEM	ACTION REMARKS
1.	Capping (1) to rear corner (2)	Four screws (3), four lockwashers (4), and four nuts (5)	Using number two cross-tip screwdriver and 7/16-inch open-end wrench, unscrew and take out.
2.	Rear corner (2)	Capping (1), filler (6), seal (7), and retainer (8)	Take off.

NOTE

To remove seal and retainer from filler and from front wall filler continue with steps 3 and 4.

SIDE DOOR BODY SEALS AND BUMPERS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Seal (7) and retainer (8) to filler (6)	Nine screws (9)	Using number two cross-tip screwdriver, unscrew and take out.
4. Filler (6)	Seal (7) and retainer (8)	Take off. **Discard seal.**



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SIDE DOOR BODY SEALS AND BUMPERS – CONTINUED

REMOVAL – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
5.	Bumper (1) to bracket (2)	Bolt (3), flat washer (4), lockwasher (5), and nut (6)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.
6.	Bracket (2)	Bumper (1)	Take off. **Discard bumper.**
7.	Bracket (2) to rear corner (7)	Four bolts (8), four lockwashers (9), and four nuts (10)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, remove.
8.	Rear corner (7)	Bracket (2)	Take off.

NOTE

Steps 9 and 10 are for lower door bumpers only.

	LOCATION	ITEM	ACTION REMARKS
9.	Clip (11) to bracket (2)	Four screws (12), four lockwashers (13), and four nuts (14)	Using 3/8-inch flat-tip screwdriver and 3/8-inch open-end wrench, unscrew and take out.
10.	Bracket (2)	Clip (11)	Take off.

INSTALLATION

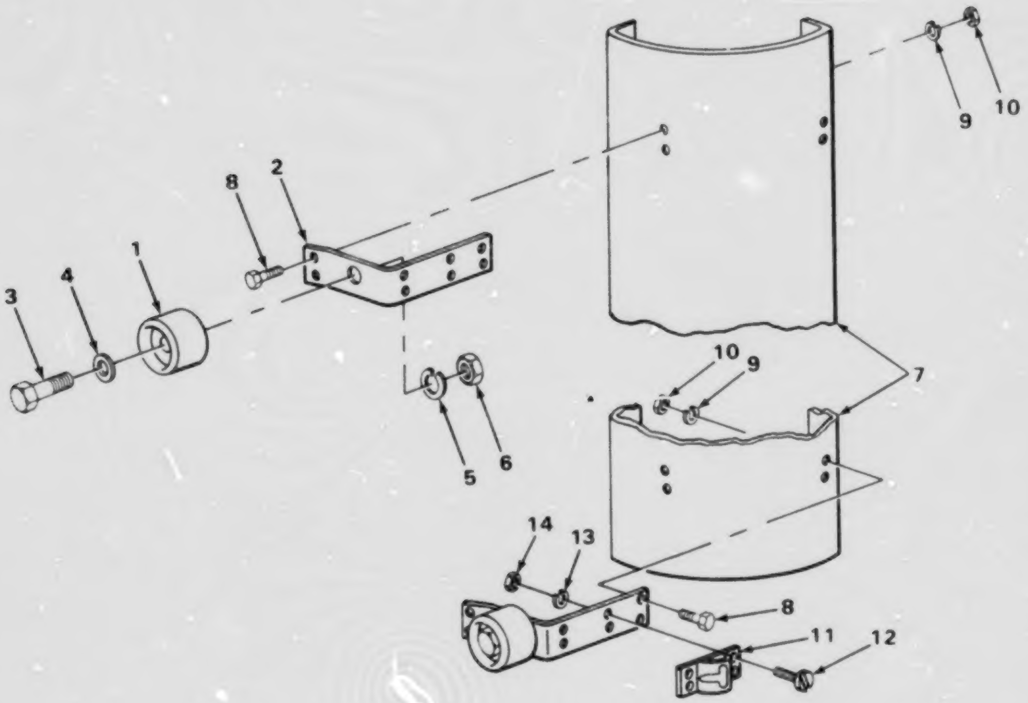
NOTE

Steps 11 and 12 are for lower door bumpers only.

	LOCATION	ITEM	ACTION REMARKS
11.	Bracket (2)	Clip (11)	Place in position.
12.	Clip (11) to bracket (2)	Four screws (12), four lockwashers (13), and four nuts (14)	Using 3/8-inch flat-tip screwdriver and 3/8-inch open-end wrench, screw in and tighten.

SIDE DOOR BODY SEALS AND BUMPERS – CONTINUED

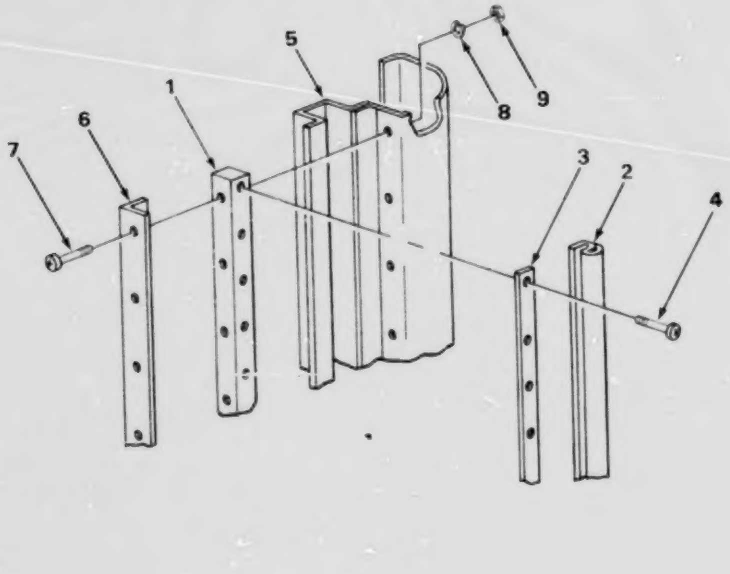
	LOCATION	ITEM	ACTION REMARKS
13.	Rear corner (7)	Bracket (2)	Place in position.
14.	Bracket (2) to rear corner (7)	Four bolts (8), four lockwashers (9), and four nuts (10)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.
15.	Bracket (2)	New bumper (1)	Place in position.
16.	Bumper (1) to bracket (2)	Bolt (3), flat washer (4), lockwasher (5), and nut (6)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.



TA231148

SIDE DOOR BODY SEALS AND BUMPERS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION – CONTINUED		
17. Filler (1)	New seal (2) and retainer (3)	Place in position.
18. Seal (2) and retainer (3) to filler (1)	Nine screws (4)	Using number two cross-tip screwdriver, screw in and tighten.
19. Rear corner (5)	Capping (6), filler (1), seal (2), and retainer (3)	Place in position.
20. Capping (6) to rear corner (5)	Four screws (7), four lockwashers (8), and four nuts (9)	Using number two cross-tip screwdriver and 7/16-inch open-end wrench, screw in and tighten.



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FRONT VENTILATOR

This task covers:

a. Removal (page 4-189)
b. Installation (page 4-189)

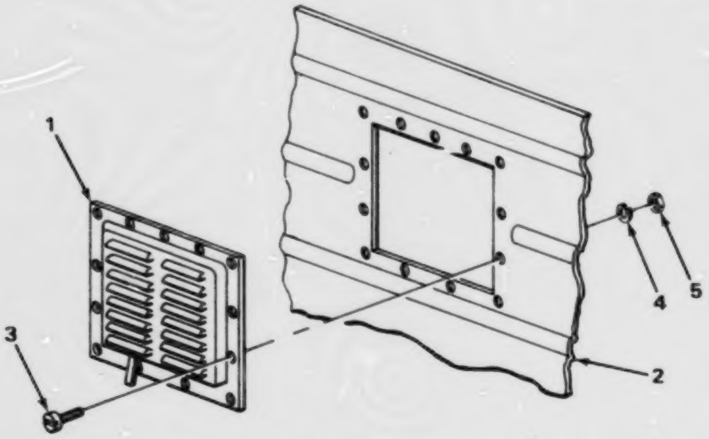
TA231149

FRONT VENTILATOR – CONTINUED

INITIAL SETUP

Tools	Personnel Required
Screwdriver, flat-tip, 3/8-inch Wrench, box-end, 3/8-inch	Two

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Front ventilator (1) to front wall (2)	13 screws (3), 13 lockwashers (4), and 13 nuts (5)	Using 3/8-inch flat-tip screwdriver and 3/8-inch box-end wrench, with assistance unscrew and take off.
2. Front wall (2)	Front ventilator (1)	Take off.
INSTALLATION		
3. Front wall (2)	Front ventilator (1)	Place in position.
4. Front ventilator (1) to front wall (2)	13 screws (3), 13 lockwashers (4), and 13 nuts (5)	Using 3/8-inch flat-tip screwdriver and 3/8-inch box-end wrench, with assistance screw in and tighten.



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SIDE DOORS

This task covers:

- a. Removal (page 4-190)
- b. Disassembly, paint shop door (page 4-192)
- c. Assembly, paint shop door (page 4-194)
- d. Disassembly, battery shop door (page 4-196)
- e. Assembly, battery shop door (page 4-198)
- f. Installation (page 4-200)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
Screwdriver, cross-tip, number two
Socket, 3/8-inch drive, 1/2-inch
Wrench, box-end, 1/2-inch

Materials/Parts

New moulding (if required)
Liners (two required)

Personnel Required

Two

REMOVAL

NOTE

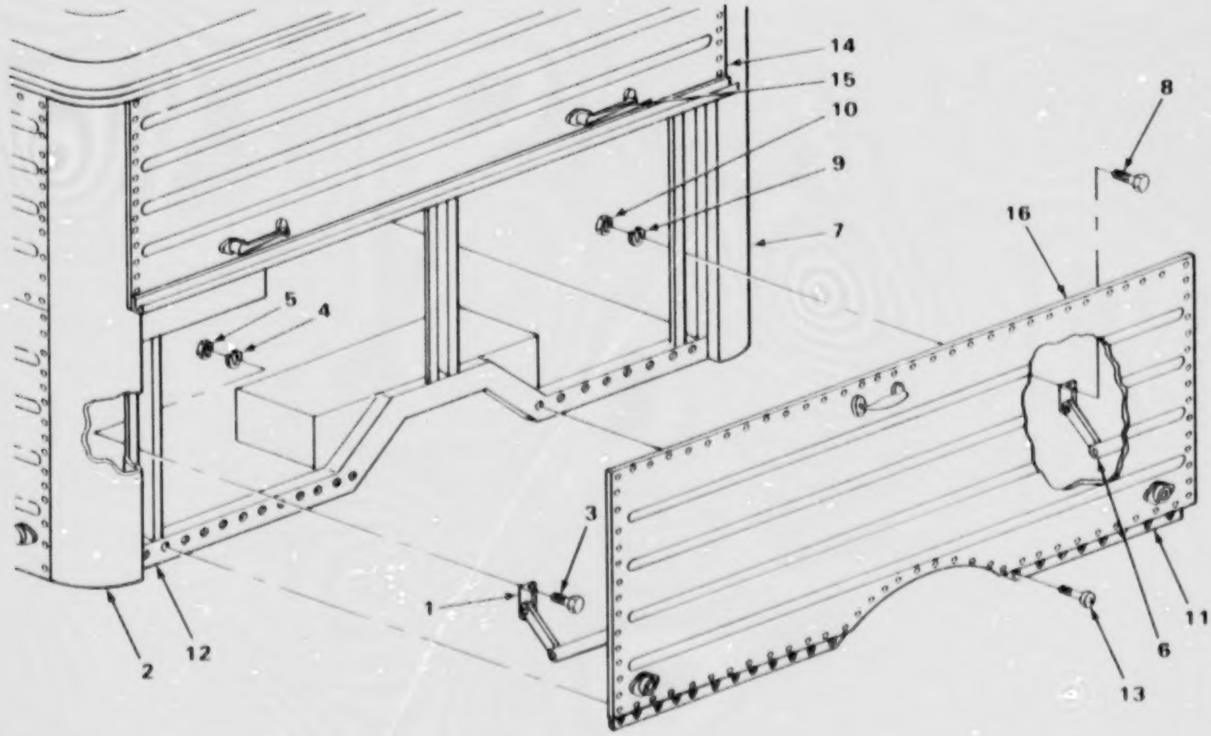
Removal, disassembly, assembly, and installation procedures are identical and are for one side door and attaching hardware only, unless otherwise noted.

Use of assistant is required to hold lower side door closed during removal, unless otherwise noted.

LOCATION	ITEM	ACTION REMARKS
1. Folding arm (1) to rear corner (2)	Two bolts (3), two lockwashers (4), and two nuts (5)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.
2. Folding arm (6) to front corner (7)	Two bolts (8), two lockwashers (9), and two nuts (10)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.

SIDE DOORS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Front and rear hinge (11) to floor (12)	20 screws (13)	Using number two cross-tip screwdriver, unscrew and take out.
4. Upper side panel (14)	Two handles (15)	Open.
5. Upper side panel (14) to floor (12)	Lower side door (16)	With assistance, take off.



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SIDE DOORS - CONTINUED

	LOCATION	ITEM	ACTION REMARKS

DISASSEMBLY, PAINT SHOP DOOR

	LOCATION	ITEM	ACTION REMARKS
6.	Panel (1) to lower side door (2)	Six screws (3)	Using number two cross-tip screwdriver, unscrew and take out.
7.	Lower side door (2)	Panel (1)	Take off.
8.	Two folding arms (4) to lower side door (2)	Four bolts (5), four lockwashers (6), two plates (7), and four nuts (8)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.
9.	Lower side door (2)	Two folding arms (4)	Take off.
10.	Front hinge (9) to lower side door (2)	12 screws (10)	Using number two cross-tip screwdriver, unscrew and take out.
11.	Lower side door (2)	Front hinge (9) and seal (11)	Take off.
12.	Rear hinge (12) to lower side door (2)	Nine screws (13)	Using number two cross-tip screwdriver, unscrew and take out.
13.	Lower side door (2)	Rear hinge (12) and seal (14)	Take off.
14.	Handle (15) to lower side door (2)	Four screws (16)	Using number two cross-tip screwdriver, unscrew and take out.
15.	Lower side door (2)	Handle (15)	Take off.

NOTE

Mark position of four plates for installation because they are adjustable.

	LOCATION	ITEM	ACTION REMARKS
16.	Four plates (17) to lower side door (2)	Four bolts (18) and four lockwashers (19)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.
17.	Lower side door (2)	Four plates (17)	Take off.

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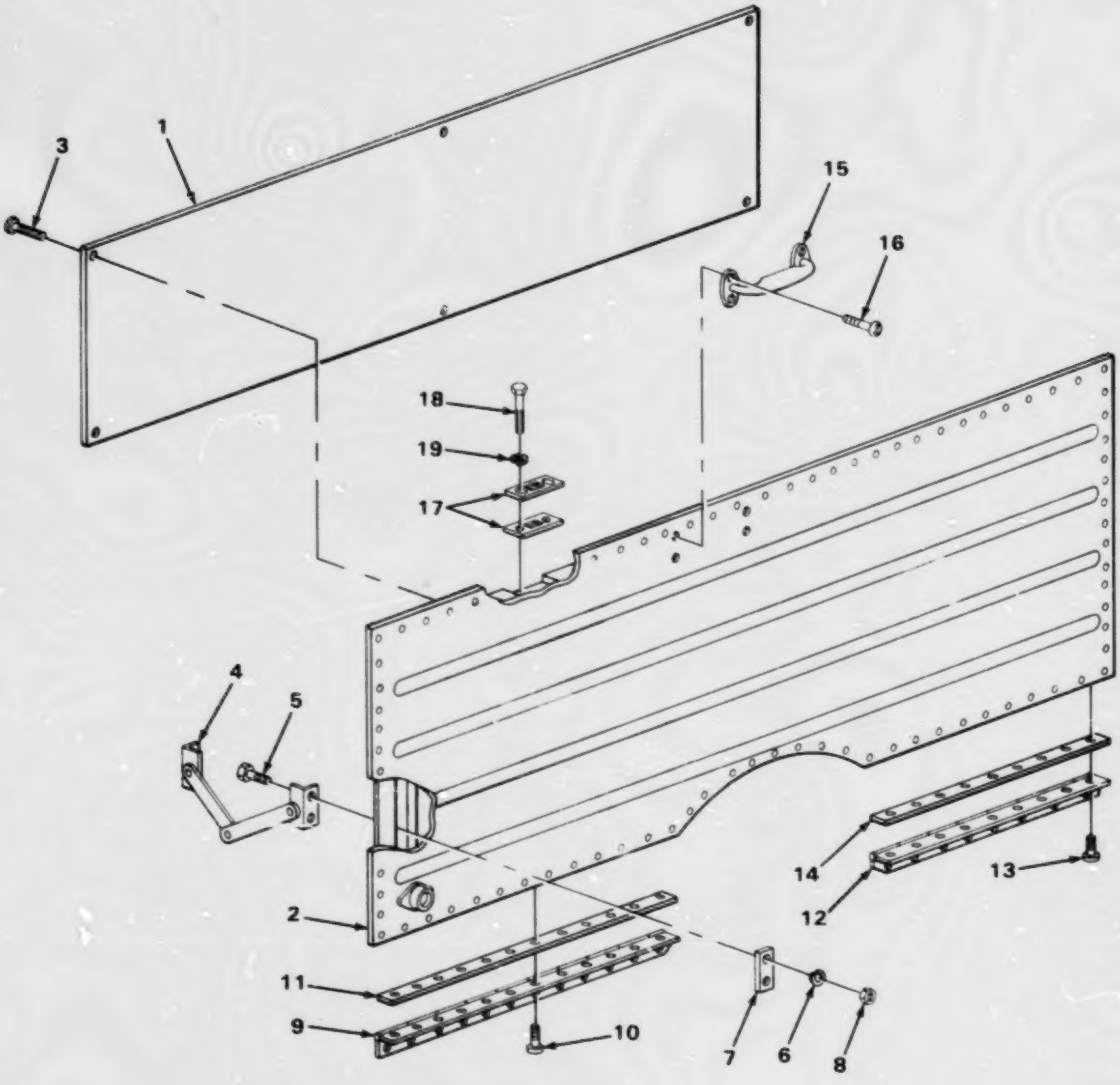
SIDE DOORS – CONTINUED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TA231152

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SIDE DOORS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS

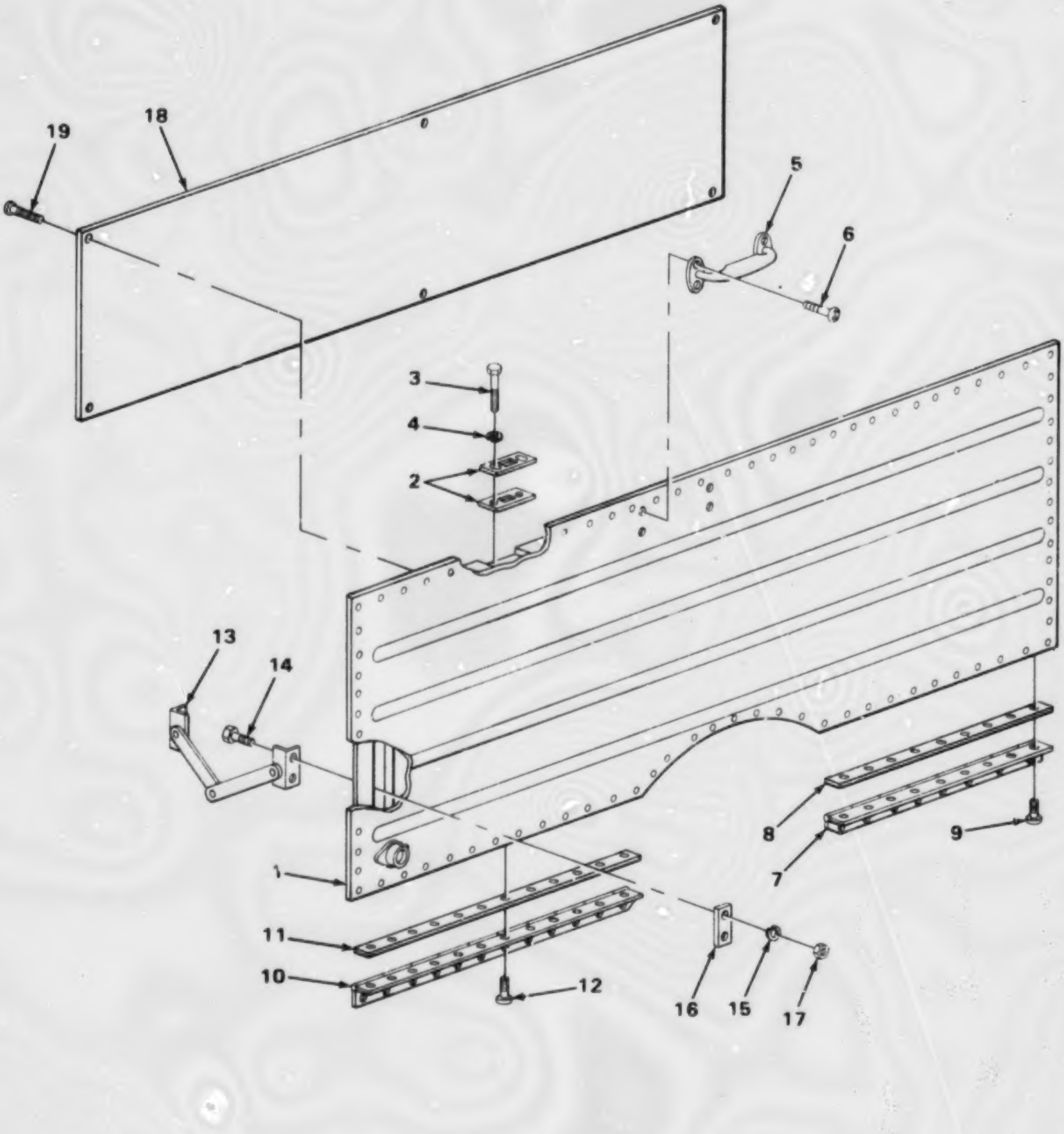
ASSEMBLY, PAINT SHOP DOOR

NOTE

Place four plates at location marked during disassembly.

18.	Lower side door (1)	Four plates (2)	Place in position.
19.	Four plates (2) to lower side door (1)	Four bolts (3) and four lockwashers (4)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
20.	Lower side door (1)	Handle (5)	Place in position.
21.	Handle (5) to lower side door (1)	Four screws (6)	Using number two cross-tip screwdriver, screw in and tighten.
22.	Lower side door (1)	Rear hinge (7) and seal (8)	Place in position.
23.	Rear hinge (7) to lower side door (1)	Nine screws (9)	Using number two cross-tip screwdriver, screw in and tighten.
24.	Lower side door (1)	Front hinge (10) and seal (11)	Place in position.
25.	Front hinge (10) to lower side door (1)	12 screws (12)	Using number two cross-tip screwdriver, screw in and tighten.
26.	Lower side door (1)	Two folding arms (13)	Place in position.
27.	Two folding arms (13) to lower side door (1)	Four bolts (14), four lockwashers (15), two plates (16), and four nuts (17)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.
28.	Lower side door (1)	Panel (18)	Place in position.
29.	Panel (18) to lower side door (1)	Six screws (19)	Using number two cross-tip screwdriver, screw in and tighten.

SIDE DOORS – CONTINUED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TA231153

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SIDE DOORS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS

DISASSEMBLY, BATTERY SHOP DOOR

	LOCATION	ITEM	ACTION REMARKS
30.	Four bands (1) to lower side door (2)	Eight thumbscrews (3)	Unscrew and take out.
31.	Lower side door (2)	Four bands (1)	Take off.
32.		Two covers (4), two pans (5), and two liners (6)	Take off. **Discard liners.**
33.		Two caps (7)	To drain any battery acid in lower side door, remove with caution.
34.	Two folding arms (8) to lower side door (2)	Four screws (9), four lockwashers (10), two plates (11), and four nuts (12)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.
35.	Lower side door (2)	Two folding arms (8)	Take off.
36.	Front hinge (13) to lower side door (2)	12 screws (14)	Using number two cross-tip screwdriver, unscrew and take out.
37.	Lower side door (2)	Front hinge (13) and seal (15)	Take off.
38.	Rear hinge (16) to lower side door (2)	Nine screws (17)	Using number two cross-tip screwdriver, unscrew and take out.
39.	Lower side door (2)	Rear hinge (16) and seal (18)	Take off.
40.	Handle (19) to lower side door (2)	Four screws (20)	Using number two cross-tip screwdriver, unscrew and take out.
41.	Lower side door (2)	Handle (19)	Take off.

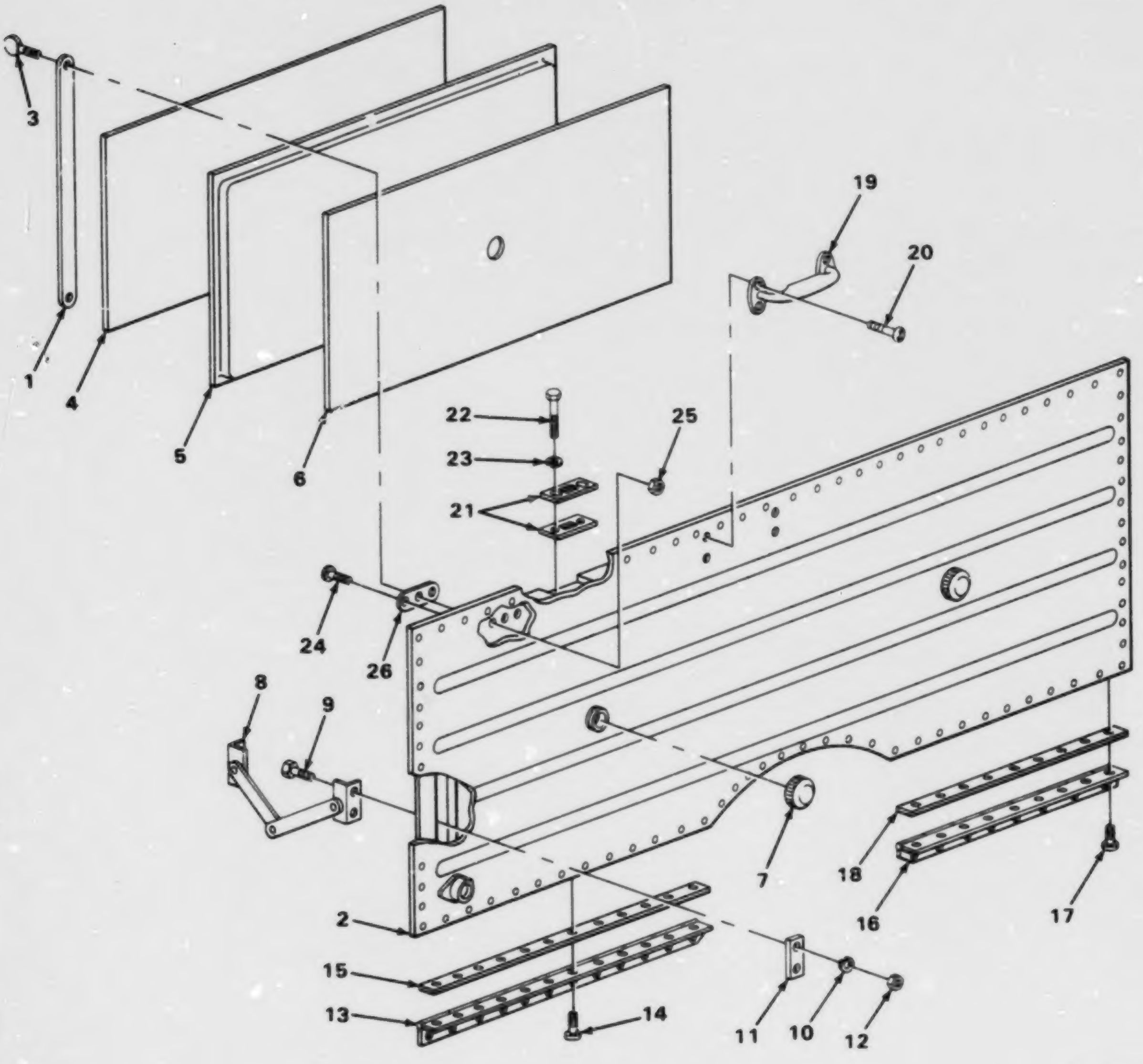
NOTE

Mark position of four plates for installation because they are adjustable.

42.	Four plates (21) to lower side door (2)	Four screws (22) and four lockwashers (23)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, unscrew and take out.

SIDE DOORS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
43.	Lower side door (2)	Four plates (21)	Take off.
44.	Eight spring nuts (26) to lower side door (2)	16 screws (24) and 16 nuts (25)	Using number two cross-tip screwdriver, unscrew and take out.
45.		Eight spring nuts (26)	Take off.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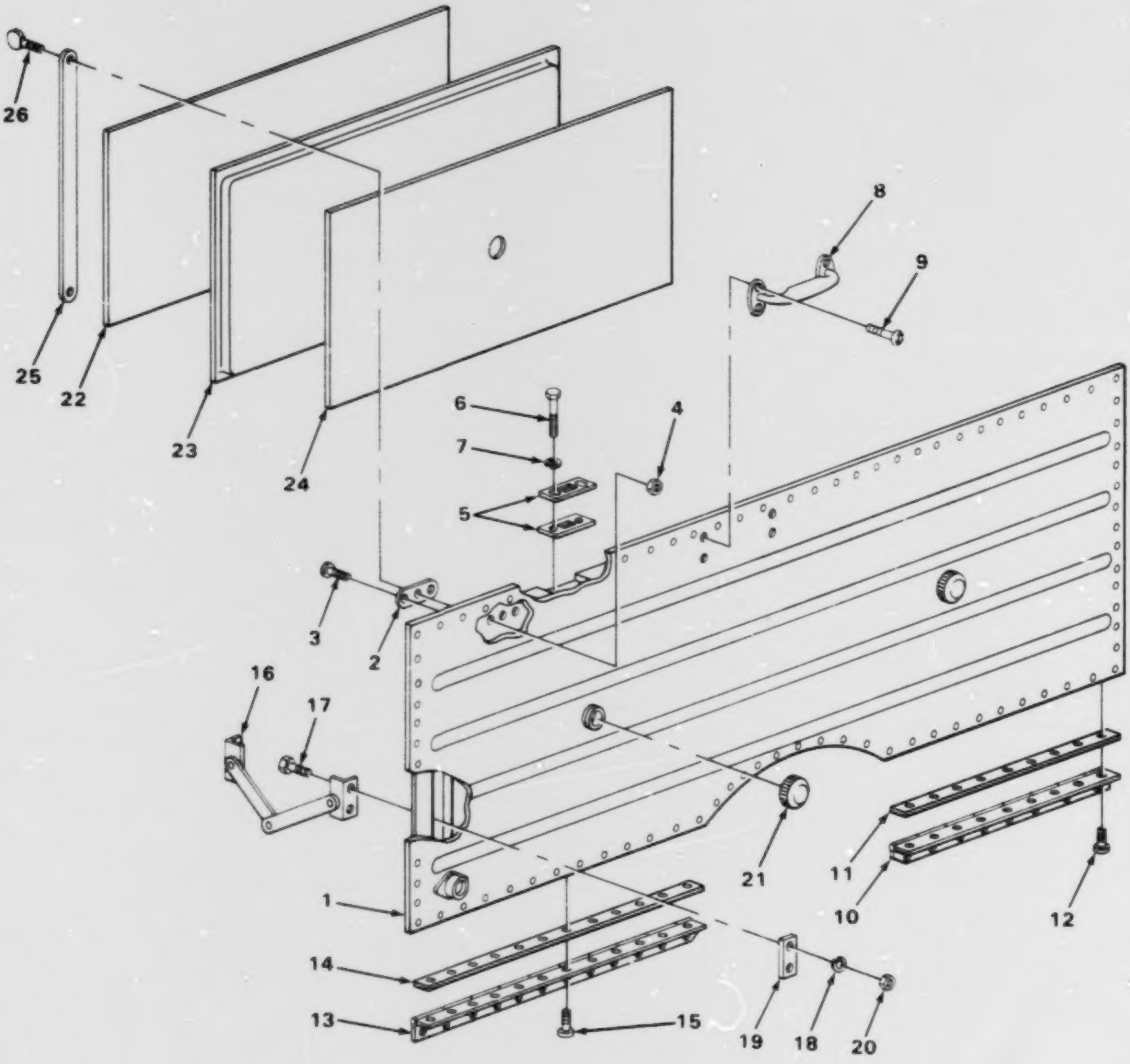
SIDE DOORS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
ASSEMBLY, BATTERY SHOP DOOR			
46.	Lower side door (1)	Eight spring nuts (2)	Place in position.
47.		16 screws (3) and 16 nuts (4)	Using number two cross-tip screwdriver, screw in and tighten.
48.	Lower side door (1)	Four plates (5)	Place in position as marked during disassembly.
49.	Four plates (5) to lower side door (1)	Four bolts (6) and four lockwashers (7)	Using 1/2-inch socket and ratchet handle with 3/8-inch drive, screw in and tighten.
50.	Lower side door (1)	Handle (8)	Place in position.
51.	Handle (8) to lower side door (1)	Four screws (9)	Using number two cross-tip screwdriver, screw in and tighten.
52.	Lower side door (1)	Rear hinge (10) and seal (11)	Place in position.
53.	Rear hinge (10) to lower side door (1)	Nine screws (12)	Using number two cross-tip screwdriver, screw in and tighten.
54.	Lower side door (1)	Front hinge (13) and seal (14)	Place in position.
55.	Front hinge (13) to lower side door (1)	12 screws (15)	Using number two cross-tip screwdriver, screw in and tighten.
56.	Lower side door (1)	Two folding arms (16)	Place in position.
57.	Two folding arms (16) to lower side door (1)	Four screws (17), four lockwashers (18), two plates (19), and four nuts (20)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.
58.	Lower side door (1)	Two caps (21)	Screw on.
59.		Two covers (22), two pans (23), and two new liners (24)	Place in position.
60.		Four bands (25)	Place in position.

SIDE DOORS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
61.	Four bands (25) to lower side door (1)	Eight thumbscrews (26)	Screw in and tighten.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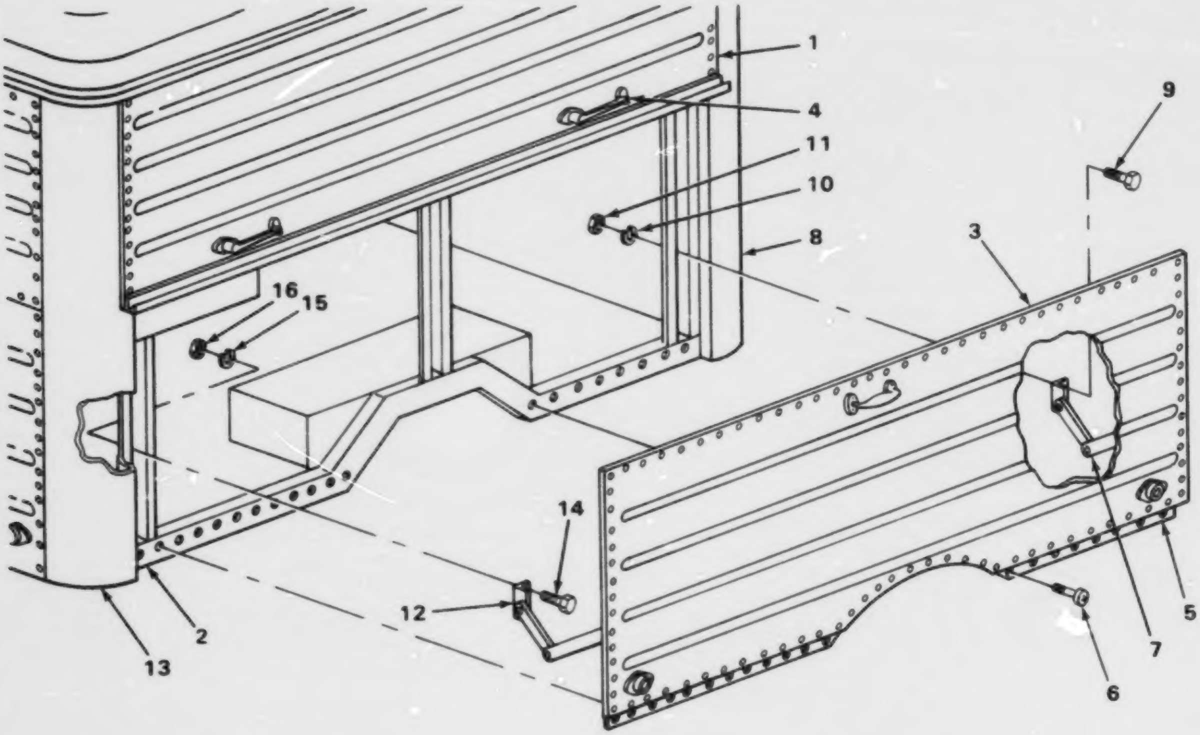
TA231155

SIDE DOORS – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	INSTALLATION		
62.	Upper side panel (1) to floor (2)	Lower side door (3)	With assistance, place in closed position and hold.
63.	Upper side panel (1)	Two handles (4)	Close.
64.	Front and rear hinge (5) to floor (2)	20 screws (6)	Using number two cross-tip screwdriver, screw in and tighten.
65.	Folding arm (7) to front corner (8)	Two screws (9), two lockwashers (10), and two nuts (11)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.
66.	Folding arm (12) to rear corner (13)	Two screws (14), two lockwashers (15), and two nuts (16)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.



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TA231156

SIDE DOOR UPPER SEALS

This task covers:

a. Removal (page 4-201)
b. Installation (page 4-202)

INITIAL SETUP

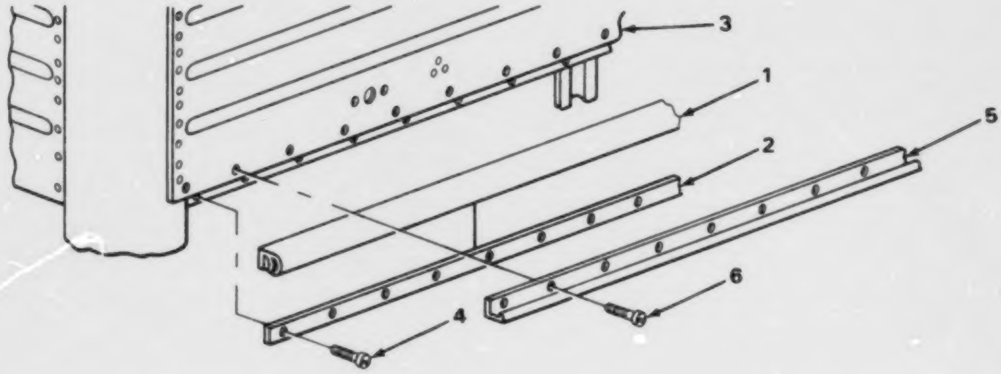
Tools	Materials/Parts
Screwdriver, flat-tip, 3/8-inch	Seal

REMOVAL

NOTE

Procedure is given for one upper seal.

	LOCATION	ITEM	ACTION REMARKS
1.	Upper seal (1) and retainer (2) to panel (3)	28 screws (4)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
2.	Panel (3)	Upper seal (1) and retainer (2)	Take off. **Discard upper seal.**
3.	Moulding (5) to panel (3)	28 screws (6)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
4.	Panel (3)	Moulding (5)	Take off.



TA231157

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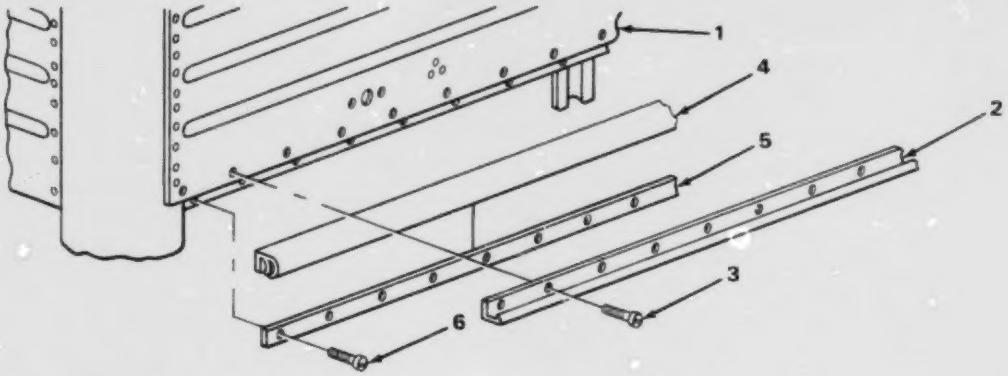
SIDE DOOR UPPER SEALS – CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
5. Panel (1)	Moulding (2)	Place in position.
6. Moulding (2) to panel (1)	28 screws (3)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
7. Panel (1)	New upper seal (4) and retainer (5)	Place in position.
8. Upper seal (4) and retainer (5) to panel (1)	28 screws (6)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.



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VENT

This task covers:

a. Disassembly (page 4-203)
b. Assembly (page 4-204)

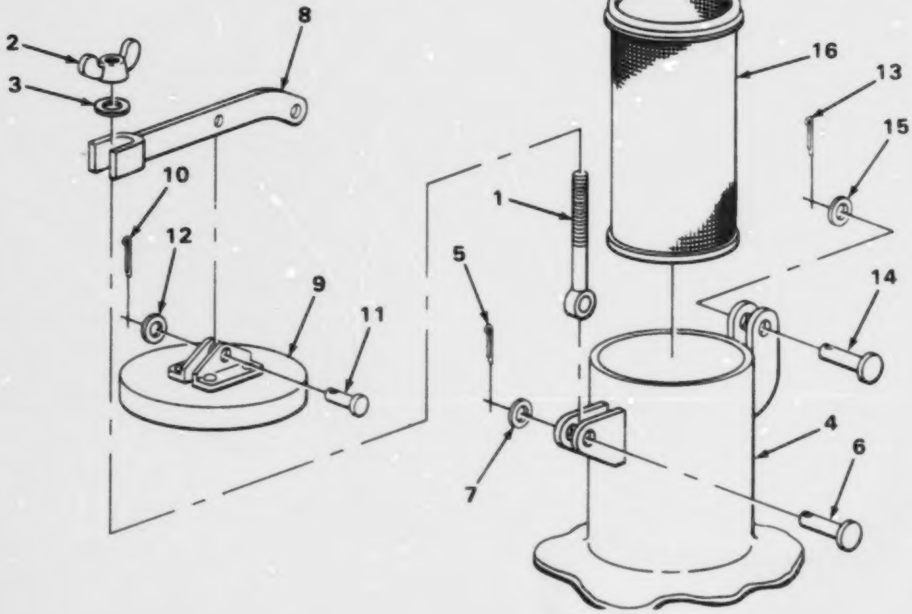
INITIAL SETUP

Tools	Materials/Parts
Pliers, diagonal-cutting	Cotter pins (three required)

TA231158

VENT – CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
1. Bolt (1)	Wingnut (2) and flat washer (3)	a. Unscrew and take off wingnut. b. Take off flat washer.
2. Bolt (1) to vent (4)	Cotter pin (5), pin (6), and flat washer (7)	a. Using diagonal-cutting pliers, take out cotter pin and take off flat washer. b. Take out pin. **Discard cotter pin.**
3. Vent (4)	Bolt (1)	Take out.
4. Hinge (8) to cover (9)	Cotter pin (10), pin (11), and flat washer (12)	a. Using diagonal-cutting pliers, take out cotter pin and take off flat washer. b. Take out pin. **Discard cotter pin.**
5. Vent (4)	Cover (9)	Take off.
6. Hinge (8) to vent (4)	Cotter pin (13), pin (14), and flat washer (15)	a. Using diagonal-cutting pliers, take out cotter pin and take off flat washer. b. Take out pin. **Discard cotter pin.**
7. Vent (4)	Hinge (8)	Take off.
8.	Strainer (16)	Take out.



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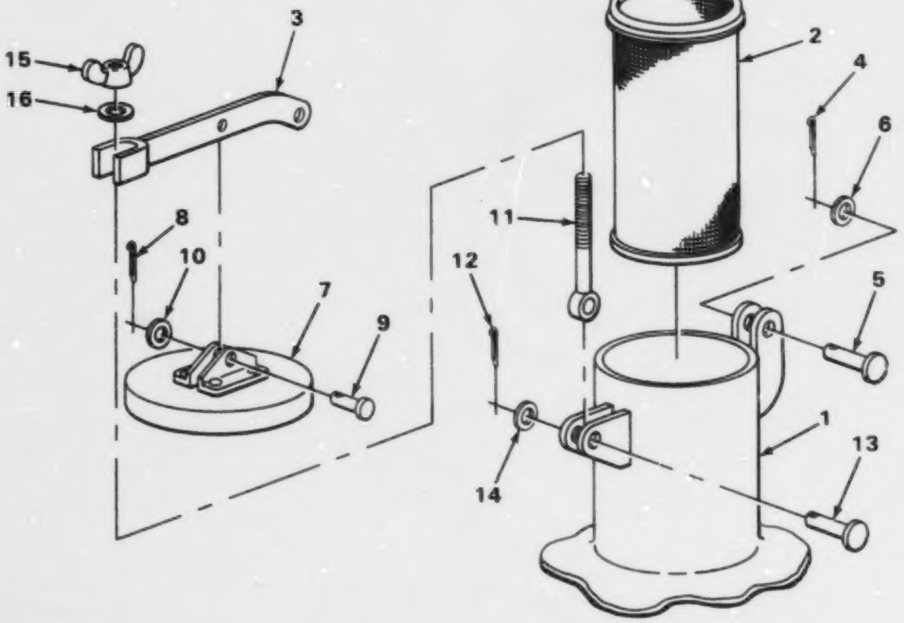
VENT – CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
9. Vent (1)	Strainer (2)	Place in position.
10.	Hinge (3)	Place in position.
11. Hinge (3) to vent (1)	New cotter pin (4), pin (5), and flat washer (6)	a. Put pin in place. b. Put on flat washer and, using diagonal-cutting pliers, put cotter pin in place.
12. Vent (1)	Cover (7)	Place in position.
13. Hinge (3) to cover (7)	New cotter pin (8), pin (9), and flat washer (10)	a. Put pin in place. b. Put on flat washer and, using diagonal-cutting pliers, put cotter pin in place.
14. Vent (1)	Bolt (11)	Place in position.
15. Bolt (11) to vent (1)	New cotter pin (12), pin (13), and flat washer (14)	a. Put pin in place. b. Put on flat washer and, using diagonal-cutting pliers, put cotter pin in place.
16. Bolt (11)	Wingnut (15) and flat washer (16)	Screw on and tighten.



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TA231160

SIDE DOOR LATCHES

This task covers:

a. Removal (page 4-205)
b. Installation (page 4-206)

INITIAL SETUP

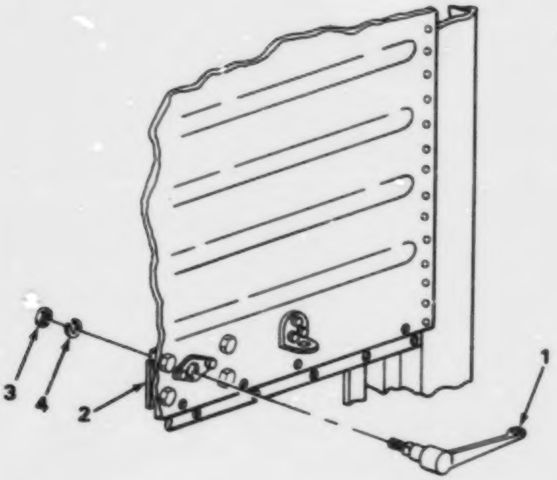
Tools	Tools – Continued
Handle, ratchet, 3/8-inch drive	Wrench, box-end, 3/8-inch
Screwdriver, flat-tip, 3/8-inch	Wrench, box-end, 1/2-inch
Socket, 3/8-inch drive, 1/2-inch	Wrench, box-end, 3/4-inch

REMOVAL

NOTE

There are four side door latches. Procedures given for one latch are the same for all.

LOCATION	ITEM	ACTION REMARKS
1. Handle (1) to lock (2)	Nut (3) and lockwasher (4)	Using 3/4-inch box-end wrench, unscrew and take off.



TA231161

SIDE DOOR LATCHES – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
2. Lock (1)	Handle (2) with ring (3)	Take out.
3. Plate (4) and seal (5) to panel (6)	Two screws (7)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
4. Panel (6)	Plate (4) and seal (5)	Take off.
5. Bracket (8) to panel (6)	Three screws (9), three lockwashers (10), and three nuts (11)	Using 3/8-inch flat-tip screwdriver and 3/8-inch box-end wrench, unscrew and take out.
6. Panel (6)	Bracket (8)	Take off.
7. Lock (1) to panel (6)	Four screws (12), four lockwashers (13), and four nuts (14)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, unscrew and take out.
8. Panel (6)	Lock (1) and spacer (15)	Take off.
INSTALLATION		
9. Panel (6)	Lock (1) and spacer (15)	Place in position.
10. Lock (1) to panel (6)	Four screws (12), four lockwashers (13), and four nuts (14)	Using 1/2-inch socket, ratchet handle with 3/8-inch drive, and 1/2-inch box-end wrench, screw in and tighten.
11. Panel (6)	Bracket (8)	Place in position.
12. Bracket (8) to panel (6)	Three screws (9), three lockwashers (10), and three nuts (11)	Using 3/8-inch flat-tip screwdriver and 3/8-inch box-end wrench, screw in and tighten.
13. Panel (6)	Plate (4) and seal (5)	Place in position.

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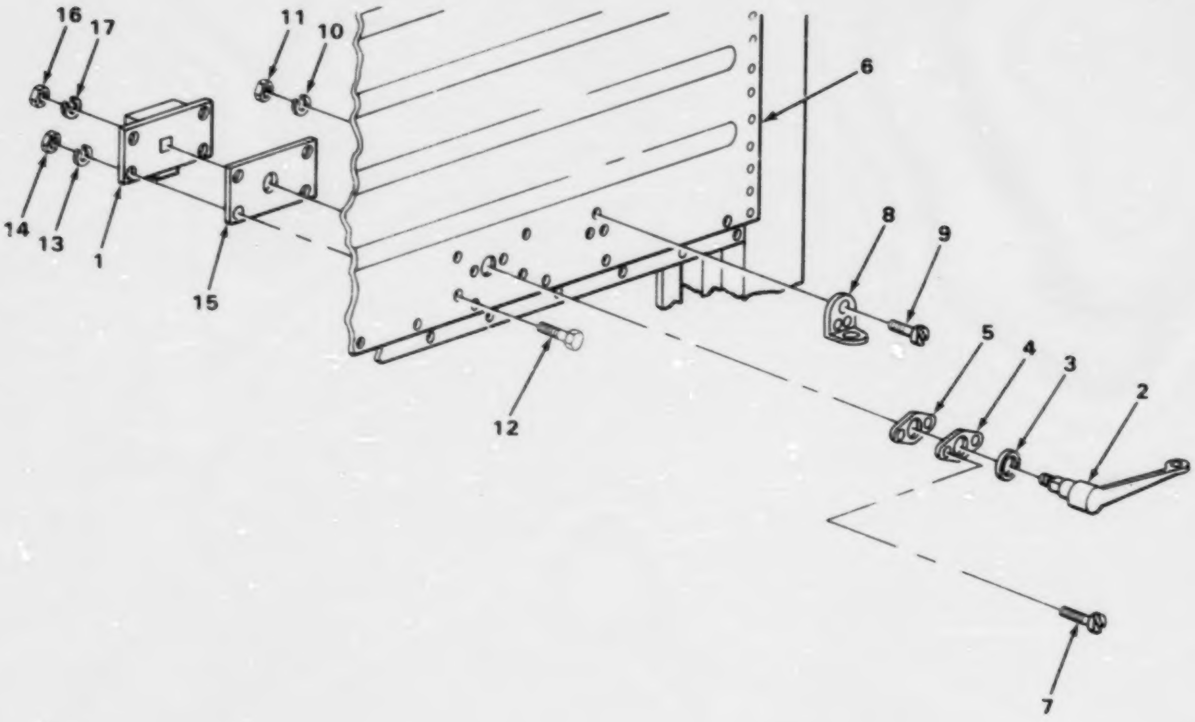
SIDE DOOR LATCHES – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
14.	Plate (4) and seal (5) to panel (6)	Two screws (7)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.
15.	Lock (1)	Handle (2) with ring (3)	Place in position.
16.	Handle (2) to lock (1)	Nut (16) and lockwasher (17)	Using 3/4-inch box-end wrench, screw in and tighten.



TASK ENDS HERE

Section XVI. MISCELLANEOUS ACCESSORIES

Page

Data Plates 4-208
Reflectors 4-209

Page

Reflectors, M448 Shop Van 4-210

TA231162

DATA PLATES

This task covers:

a. Removal (page 4-208)
b. Installation (page 4-208)

INITIAL SETUP

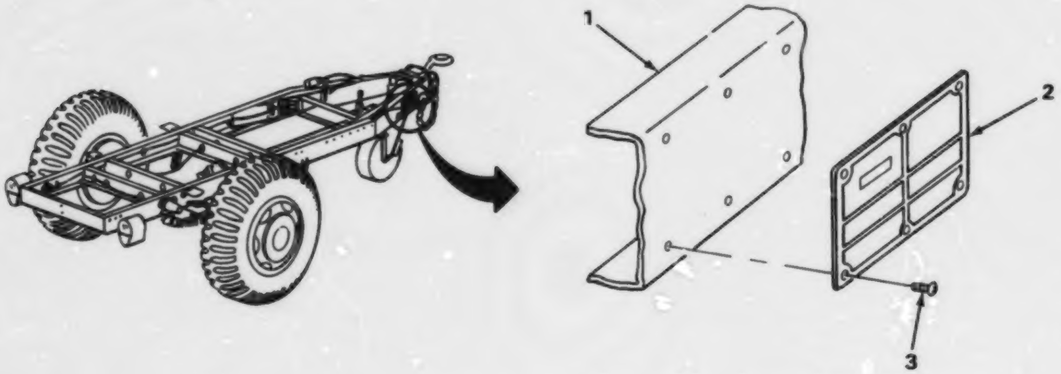
Tools

Screwdriver, flat-tip, 3/8-inch

NOTE

This procedure is typical for all models.

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Frame (1) at data plate (2)	Screws (3)	Using 3/8-inch flat-tip screwdriver, unscrew and take out.
2. Frame (1)	Data plate (2)	Take off.
INSTALLATION		
3. Frame (1)	Data plate (2)	Position on frame.
4.	Screws (3)	Using 3/8-inch flat-tip screwdriver, screw in and tighten.



TASK ENDS HERE

TA231163

REFLECTORS

This task covers:

a. Removal (page 4-209)
b. Installation (page 4-209)

INITIAL SETUP

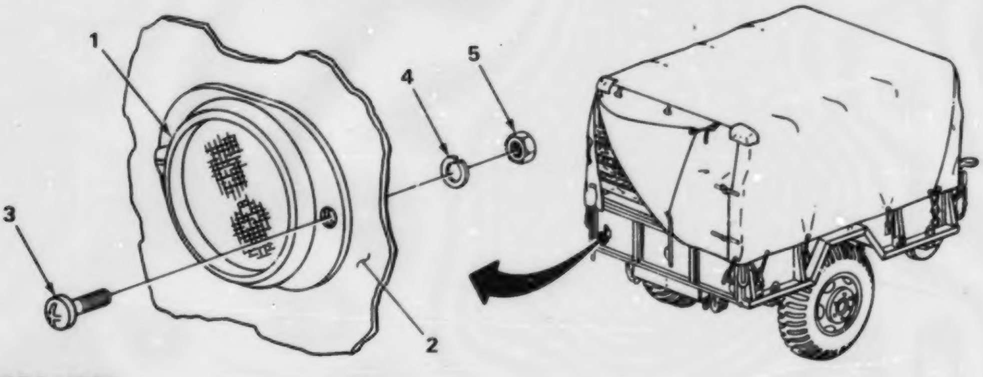
Tools

Screwdriver, cross-tip, number two
Wrench, box-end, 7/16-inch

NOTE

This procedure is typical for all models except M448.

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Reflector (1) to body (2)	Two screws (3), two lockwashers (4), and two nuts (5)	Using number two cross-tip screwdriver and 7/16-inch box-end wrench, unscrew and take out.
2. Body (2)	Reflector (1)	Take off.
INSTALLATION		
3. Body (2)	Reflector (1)	Place in position.
4. Reflector (1) to body (2)	Two screws (3), two lockwashers (4), and two nuts (5)	Using number two cross-tip screwdriver and 7/16-inch box-end wrench, screw in and tighten.



TASK ENDS HERE

TA231164

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REFLECTORS, M448 SHOP VAN

This task covers:

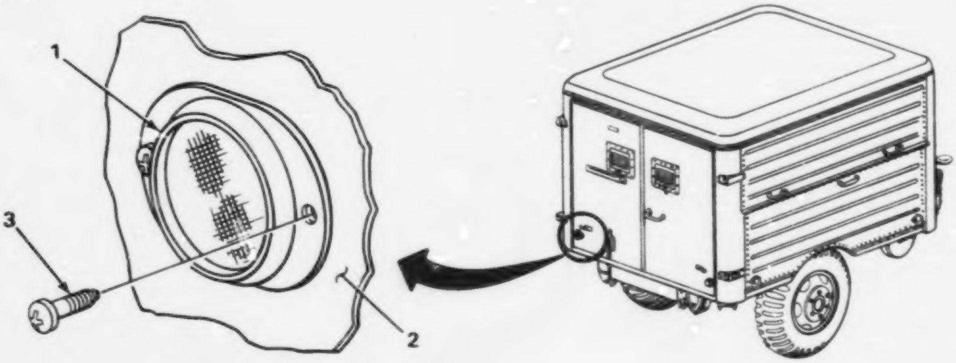
a. Removal (page 4-210)
b. Installation (page 4-210)

INITIAL SETUP

Tools

Screwdriver, cross-tip, number two

	LOCATION	ITEM	ACTION REMARKS
REMOVAL			
	NOTE Reflectors on the M448 shop van are hermetically sealed.		
1.	Reflector (1) to body (2)	Two screws (3)	Using number two cross-tip screwdriver, unscrew and take out.
2.	Body (2)	Reflector (1)	Take off.
INSTALLATION			
3.	Body (2)	Reflector (1)	Place in position.
4.	Reflector (1) to body (2)	Two screws (3)	Using number two cross-tip screwdriver, screw in and tighten.



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TA231165

Section XVII. PREPARATION FOR STORAGE AND SHIPMENT

	Page		Page
Inspection During Storage	4-211	Preservation	4-211
Packing, Shipment, and Storage	4-212		

PRESERVATION

When a trailer is received and has already been processed for domestic shipment, as indicated on DD Form 1397, the trailer does not have to be reprocessed for storage unless corrosion and deterioration are found during the inspection upon receipt. List all discrepancies found because of poor preservation, packaging, packing, marking, handling, loading, storage, or excessive preservation on SF 368. Repairs that cannot be handled by the receiving unit must have tags attached listing the needed repairs. A report of these conditions will be submitted by the unit commander for action by an ordnance maintenance unit.

Trailers to be prepared for administrative storage must be given a technical inspection and processed as described in TM 740-90-1 (Administrative Storage of Equipment).

The preferred type of storage for trailers is in a warehouse, or under cover in open sheds, whenever possible.

NOTE

> Use TM 55-601 and TM 743-200-1 as references for processing, storage, and shipment of material with the instructions contained in this section.

INSPECTION DURING STORAGE

Periodically perform a visual inspection on all trailers placed in storage. Remove any corrosion and clean, paint, and treat the area with the prescribed preservative.

NOTE

> Touchup painting will be in accordance with TM 43-0139, Painting Instructions for Field Use.

Trailers must be reprocessed in accordance with TM 740-90-1 whenever the administrative storage period expires if they have not been issued for service or shipped to another unit.

Trailers that have been removed from storage for shipment do not have to be reprocessed if they will reach their destination within the administrative storage period. Reprocess the trailer in accordance with TM 740-90-1 if inspection reveals any corrosion, or if anticipated in-transit weather conditions make it necessary.

Deprocess trailers to be placed in service in accordance with TM 740-90-1. Inspect and service the trailer in accordance with section III, Service Upon Receipt (page 4-5).

PACKING, SHIPMENT, AND STORAGE

PREPARATION FOR SHIPMENT

CAUTION

> The height and width of the trailer packaging must not exceed the railroad limits when preparing the trailer for shipment by railroad. Consult the local transportation officer, whenever possible, for limitations of the railroad lines to be used, so that delays, dangerous conditions, and damage to equipment are avoided.

Prepare the trailer for shipment by processing it in accordance with TM 740-90-1.

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CHAPTER 5

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

OVERVIEW

This chapter contains information covering repair parts; special tools; test, measurement, and diagnostic equipment (TMDE); support equipment; and direct support and general support maintenance instructions for the M105 series cargo trailers, M107 series water tank trailers, and the M448 shop van.

Page
Section I. Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment 5-1
Section II. Maintenance Procedures 5-1

Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

Page
Common Tools and Equipment 5-1
Repair Parts 5-1
Special Tools, TMDE, and Support Equipment 5-1

COMMON TOOLS AND EQUIPMENT

Refer to the Modified Table of Organization and Equipment (MTOE) for authorized common tools and equipment applicable to your unit.

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

No special tools, TMDE, or support equipment are required to maintain the M105 series cargo trailers, M107 series water tank trailers, or the M448 shop van.

REPAIR PARTS

Repair parts are listed and illustrated in appendix F of this manual.

Section II. MAINTENANCE PROCEDURES

Page
Air Chamber 5-4
Body and Frame 5-7
Brakedrum 5-6
Brakeshoe 5-2
External Valve, M107 Series 5-17
Faucet Boxes 5-16
General 5-2
Leveling Jack 5-8
Shop Van Body, M448 5-18
Tank Body Frame, M107 Series 5-15
Tire 5-7
Water Tank Body, M107 Series 5-10

GENERAL

This section provides instructions for direct support and general support maintenance of the M105 series cargo trailers, M107 series water tank trailers, and the M448 shop van. The following initial setup information applies to all procedures.

Resources required are not listed unless they apply to the procedure.

Personnel are listed only if the task requires more than one technician. If Personnel Required is not listed, one technician can do the task.

The normal standard equipment condition to start a maintenance task is power off. Equipment condition is not listed unless some other condition is required.

BRAKESHOE

This task covers:

a. Disassembly (page 5-2)
b. Cleaning (page 5-3)
c. Inspection (page 5-3)
d. Assembly (page 5-3)

INITIAL SETUP

Tools

Reliner, brake and clutch

Materials/Parts

Linings (4 required)
Rivets (56 required)

Equipment Condition

Brakeshoes removed (page 4-56 or 4-62).

	LOCATION	ITEM	ACTION **REMARKS**
	DISASSEMBLY		

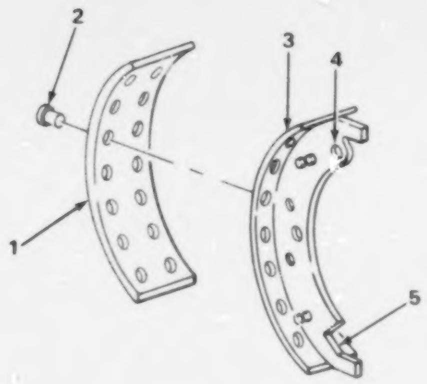
WARNING

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system. Clean dirt or mud from brake assemblies with a bristle brush or cloth and water.

	LOCATION	ITEM	ACTION / REMARKS
1.	Brake linings (1)	14 rivets (2)	Using brake reliner, remove 14 rivets and linings. **Discard linings and rivets.**

BRAKESHOE – CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING		
2. Brakeshoes (3)	Surfaces	See Cleaning Instructions (4-17).
INSPECTION		
3. Brakeshoes (3)	Surfaces	Visually check for cracks and distortion.
4.	Pivot holes (4) and cam-roller surfaces (5)	Visually check for excessive wear. **Discard bad brakeshoes.**
ASSEMBLY		
5. Brakeshoes (3)	New brake linings (1) and 14 new rivets (2)	Using brake reliner, install linings with 14 rivets.



NOTE

FOLLOW-ON MAINTENANCE: Install brakeshoes (page 4-56 or 4-62).

TASK ENDS HERE

TA231166

AIR CHAMBER

This task covers:

- a. Disassembly (page 5-4)
- b. Assembly (page 5-5)

INITIAL SETUP

Tools

Wrench, open-end, 1/2-inch (two required)
Vise, machinist's

Materials/Parts

Diaphragm
Woodblocks, 2- by 4- by 6-inch (two required)

Equipment Condition

Air chamber removed (page 4-91).

DISASSEMBLY

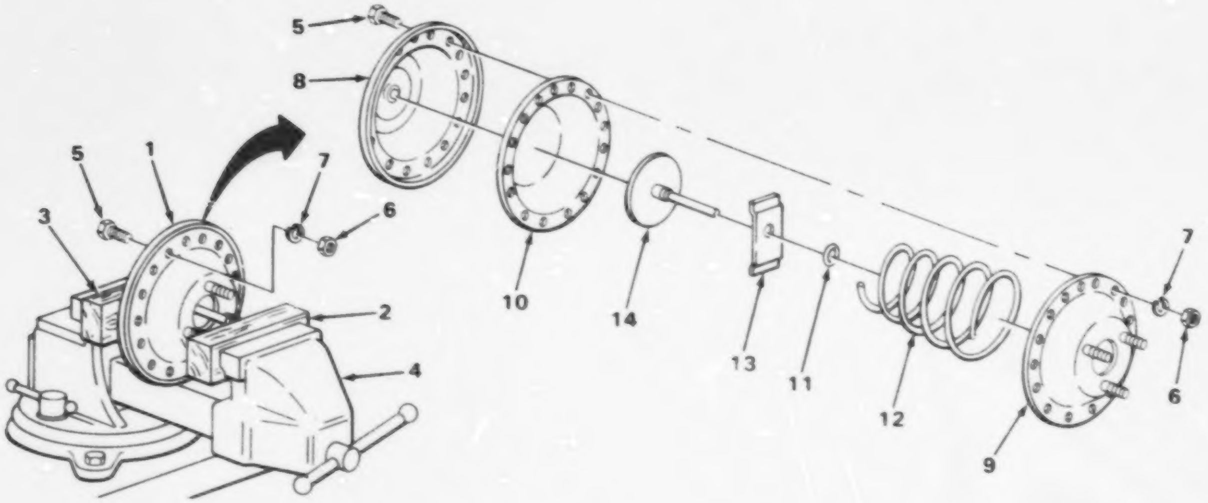
WARNING

The return spring inside the air chamber is under tension. The two halves of the chamber must be clamped together in a vise before removing all of the screws and nuts that hold it together. Failure to do so could cause serious injury to personnel.

LOCATION	ITEM	ACTION **REMARKS**
1. Air chamber (1)	Two woodblocks (2 and 3) and vise (4)	Position air chamber in vise between woodblocks.
2.	16 bolts (5), nuts (6), and lockwashers (7)	Using two 1/2-inch open-end wrenches, unscrew and take out.
3. Vise (4)	Covers (8 and 9)	Slowly open vise and separate covers.
4. Covers (8 and 9)	Diaphragm (10), packing (11), spring (12), retainer (13), and push rod (14)	Take out. **Discard diaphragm.**

AIR CHAMBER – CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
5. Covers (8 and 9)	New diaphragm (10), packing (11), spring (12), retainer (13), and push rod (14)	Assemble parts.
6. Air chamber (1)	Vise (4) and two woodblocks (3 and 2)	Using vise, compress spring bringing covers together. **Be sure holes in diaphragm are alined with holes in covers.**
7.	16 bolts (5), nuts (6), and lock-washers (7)	Using two 1/2-inch open-end wrenches, screw in and tighten.



NOTE

FOLLOW-ON MAINTENANCE: Install air chamber (page 4-91).

TASK ENDS HERE

TA231167

BRAKEDRUM

This task covers:

a. Inspection (page 5-6)
b. Repair (page 5-7)

INITIAL SETUP

Tools	Equipment Condition
Lathe, brake Micrometer, inside, with extension	Hub and drum removed (page 4-102 or 4-107).

LOCATION	ITEM	ACTION REMARKS

WARNING

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system. Clean dirt or mud from brake assemblies with a bristle brush or cloth and water.

INSPECTION

LOCATION	ITEM	ACTION / REMARKS
1. Brakedrum (1)	Stud holes (2)	Visually check for cracks. **Discard drums with cracked stud holes.**
2.	Braking surface (3)	a. Visually check for cracks (4), heat checking (5), and scoring (6). b. Using illustration and an inside micrometer, check for out of round at 45-degree intervals. Out of round should not exceed 0.006 inch (0.1524 mm). **If runout exceeds 0.006 inch (0.1524 mm), reface using brake lathe. Discard drum if inside diameter exceeds 15.23 inches (38.68 cm).**

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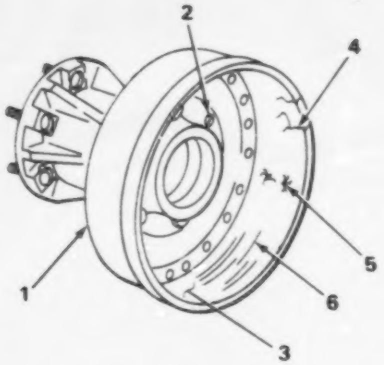
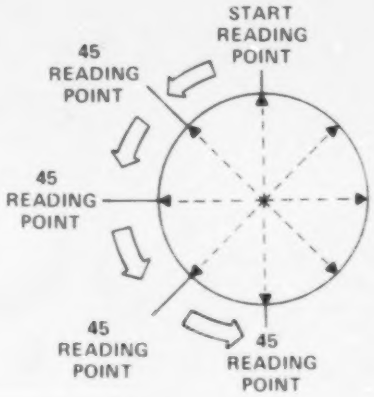
BRAKEDRUM – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
REPAIR			
3.		Brakedrum (1)	Using brake lathe, reface braking surface to remove all cracks, heat checking, and scoring. **Remove a maximum of 0.01 inch (0.0254 cm) per cut. Discard drum if inside diameter exceeds 15.23 inches (38.68 cm).**

NOTE

The illustration below shows examples of damage to the brakedrum and areas where runout is checked with the micrometer.

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45 READING POINT
45 READING POINT
45 READING POINT
45 READING POINT

NOTE

FOLLOW-ON MAINTENANCE: Install brakedrums (page 4-102 or 4-107).

TASK ENDS HERE

TIRE

Repair tires in accordance with TM 9-2610-200-24, Organizational, Direct Support, and General Support Maintenance, Care, Maintenance and Repair of Pneumatic Tires and Inner Tubes.

BODY AND FRAME

Repair body and frame in accordance with TB 9-2300-247-40, Tactical Wheeled Vehicles: Repair of Frames.

TA231168

LEVELING JACK

This task covers:

a. Disassembly (page 5-8)
b. Assembly (page 5-8)

INITIAL SETUP

Tools	Tools – Continued
Hammer, ball-peen, 1-pound Pliers, snapring	Punch, drive-pin, 5/32-inch-point diameter Wrench, open-end, 1 1/8-inch

	LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY			
1.	Handle (1) to housing (2)	Nut (3)	Using 1 1/8-inch open-end wrench, unscrew and take off.
2.	Housing (2)	Flat washer (4) and sleeve (5)	Take off.
3.	Housing (2)	Two pins (6)	Using 1-pound ball-peen hammer and 5/32-inch-point diameter drive-pin punch, tap out.
4.		Two ratchet pawls (7) and spring (8)	Take off.
5.		Handle (1), spring (9), and ball bearing (10)	Take off.
6.	Tube assembly (11)	Housing (2)	Take off.
7.	Ratchet (12) to housing (2)	Ring (13)	Using snapring pliers, take off.
8.	Housing (2)	Ratchet (12) and screw (14)	Unscrew and take out.
ASSEMBLY			
9.	Housing (2)	Ratchet (12) and screw (14)	Place in position.

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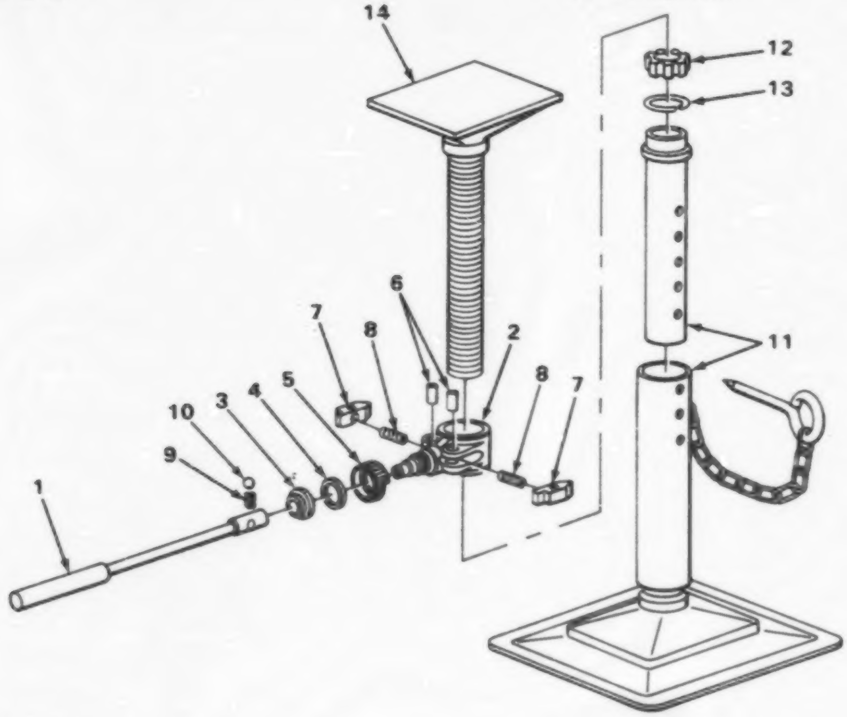
LEVELING JACK – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
10.	Ratchet (12) to housing (2)	Ring (13)	Using snapring pliers, place in position.
11.	Tube assembly (11)	Housing (2)	Place in position.
12.	Housing (2)	Handle (1), spring (9), and ball bearing (10)	Place in position.
13.		Two ratchet pawls (7) and spring (8)	Place in position.
14.		Two pins (6)	Using 1-pound ball-peen hammer and 5/32-inch-point diameter drive-pin punch, tap into place.
15.	Housing (2)	Flat washer (4) and sleeve (5)	Place in position.
16.	Handle (1) to housing (2)	Nut (3)	Using 1 1/8-inch open-end wrench, screw on and tighten.



TASK ENDS HERE

TA231169

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WATER TANK BODY, M107 SERIES

This task covers:

a. Removal (page 5-10)
b. Cleaning and Refinishing Interior (page 5-12)
c. Repair (page 5-13)
d. Installation (page 5-14)

INITIAL SETUP

Tools

- Apron or jacket, rubberized
- Air filter, portable with regulator
- Blower, air, displacement
- Gloves, rubber
- Handle, ratchet, 1/2-inch drive
- Hoist and sling, overhead, 10-ton
- Mask, abrasive
- Mask, fresh-air
- Pliers, slip-joint
- Shoes, safety
- Sleeves, canvas
- Socket, 1/2-inch drive, 15/16-inch
- Wrench, box-end, 1-inch
- Wrench, open-end, adjustable, 14-inch

Materials/Parts

- Rubber hose (as required)
- Shock mounts (eight required)
- Silica sand, medium grade, grit size 200 (item 14, appendix E)

Personnel Required

Two

NOTE

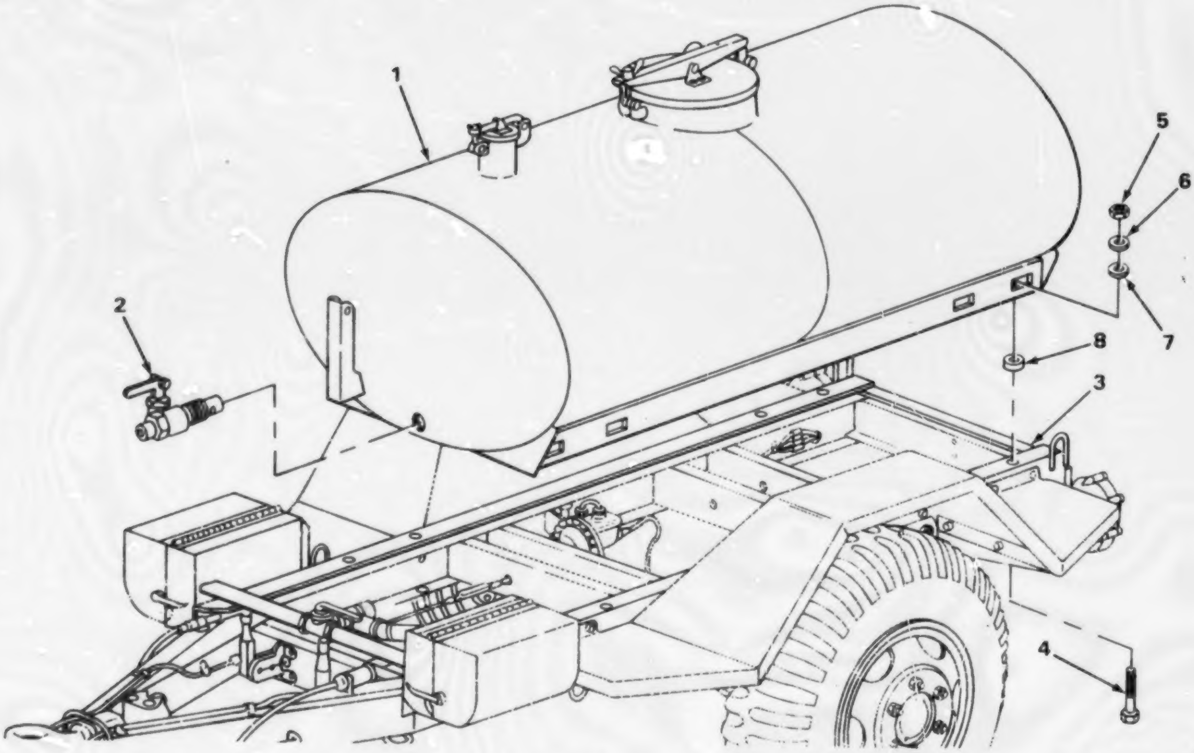
Drain any water in tank body before beginning procedures.

REMOVAL

	LOCATION	ITEM	ACTION REMARKS
1.	Body (1)	External valve (2)	Take off (page 5-17).
2.	Body (1) to body frame (3)	Eight bolts (4), eight nuts (5), eight flat washers (6), and eight rubber washers (7)	Using 15/16-inch socket, ratchet handle with 1/2-inch drive, and 1-inch box-end wrench, unscrew and take off.
3.	Body frame (3)	Body (1)	With assistance, using 10-ton overhead hoist and sling, take off.

WATER TANK BODY, M107 SERIES – CONTINUED

LOCATION	ITEM	ACTION REMARKS
4. Body (1)	Eight rubber shock mounts (8)	Take off. **Discard rubber shock mounts.**



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WATER TANK BODY, M107 SERIES – CONTINUED

CLEANING AND REFINISHING INTERIOR

LOCATION	ITEM	ACTION REMARKS
5. Body (1)	Drainplug (2)	Using 14-inch open-end adjustable wrench, unscrew and take off.
6. Filter screen cover assembly (3)	Wingnut (4), cover (5), and filter (6)	a. Using slip-joint pliers, loosen wingnut. b. Open cover and take out filter.
7. Manhole cover assembly (7)	Wingnut (8) and manhole cover (9)	a. Using slip-joint pliers, loosen wingnut. b. Open manhole cover.

WARNING

A safety rope must be secured around the chest and under the arms of a person entering the water tank. The opposite end of the safety rope must be held by a person stationed outside the water tank. This will allow quick removal of person in water tank in the event of accident or personal injury.

Protective clothing and face mask must be worn at all times during cleaning and refinishing operation.

While performing abrasive cleaning operation, personnel must wear rubber gloves, canvas sleeves, safety shoes, rubberized apron or jacket, and protective mask. A portable air filter also is used.

An adequate air evacuation system, to quickly exhaust fumes from inside water tank, must be used.

CAUTION

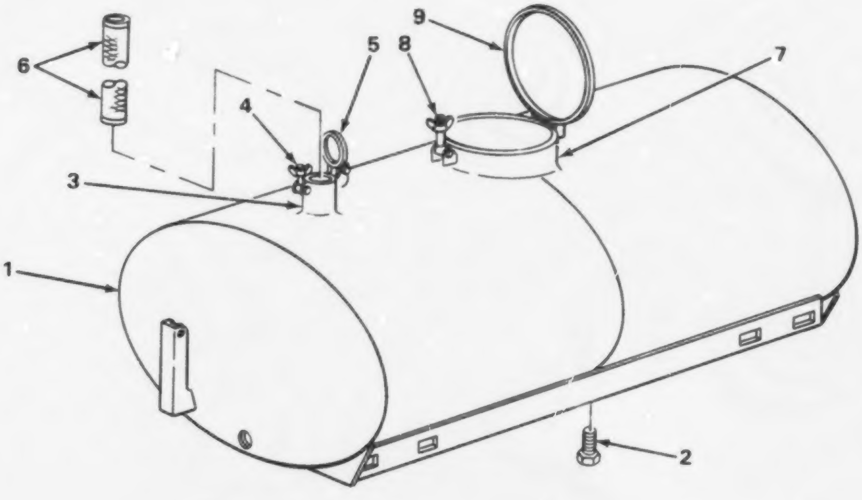
Nozzle pressure must not exceed 35 psi (241.3 kPa).

To avoid possible tank rupture or damage, do not hold spray nozzle on any one area for extended periods of time.

8. Body (1)	Body interior	a. Using silica sand, uniformly clean all interior surfaces including baffle plates, corners, seams, drains, and outlets, to remove all traces of corrosion and old coatings.

WATER TANK BODY, M107 SERIES – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
			b. Insert blasting nozzle and hose into long lengths of piping to remove all corrosion and scale. c. Use vacuum cleaner, or other suitable equipment, to remove dust, dirt, and blasting material. d. Thoroughly flush body interior until clear water flows from all drains. e. Using a portable forced-air heater, dry body interior.
9.	Body (1)	Drainplug (2)	Screw in place and using 14-inch open-end adjustable wrench, tighten.
10.	Filter screen cover assembly (3)	Wingnut (4), cover (5), and filter (6)	a. Install filter and close cover. b. Tighten wingnut.
11.	Manhole cover assembly (7)	Manhole cover (8) and wingnut (9)	a. Close manhole cover. b. Tighten wingnut.



REPAIR

To repair water tank body, refer to TM 9-237, Welding Theory and Application.

To repaint water tank body exterior as required, refer to TM 43-0139, Painting Instructions for Field Use.

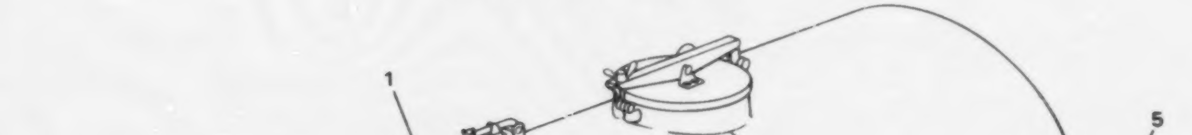
TA231171

WATER TANK BODY, M107 SERIES – CONTINUED

	LOCATION	ITEM	ACTION REMARKS
	INSTALLATION		
12.	Body (1)	Eight new rubber shock mounts (2)	Place in position.
13.	Body frame (3)	Body (1)	With assistance, using 10-ton overhead hoist and sling, place in position.
14.	Body (1) to body frame (3)	Eight bolts (4), eight nuts (5), eight flat washers (6), and eight rubber washers (7)	Using 15/16-inch socket, ratchet handle with 1/2-inch drive, and 1-inch box-end wrench, screw in and tighten.
15.	Body (1)	External valve (8)	Put on (page 5-17).

NOTE

Refill tank body with water.



TASK ENDS HERE

TA231172

TANK BODY FRAME, M107 SERIES

This task covers:

a. Removal (page 5-15)
b. Repair (page 5-16)
c. Installation (page 5-16)

INITIAL SETUP

Tools

Handle, ratchet, 1/2-inch drive
Hoist and sling, overhead, 10-ton
Socket, 1/2-inch drive, 3/4-inch
Wrench, box-end, 3/4-inch

Personnel Required

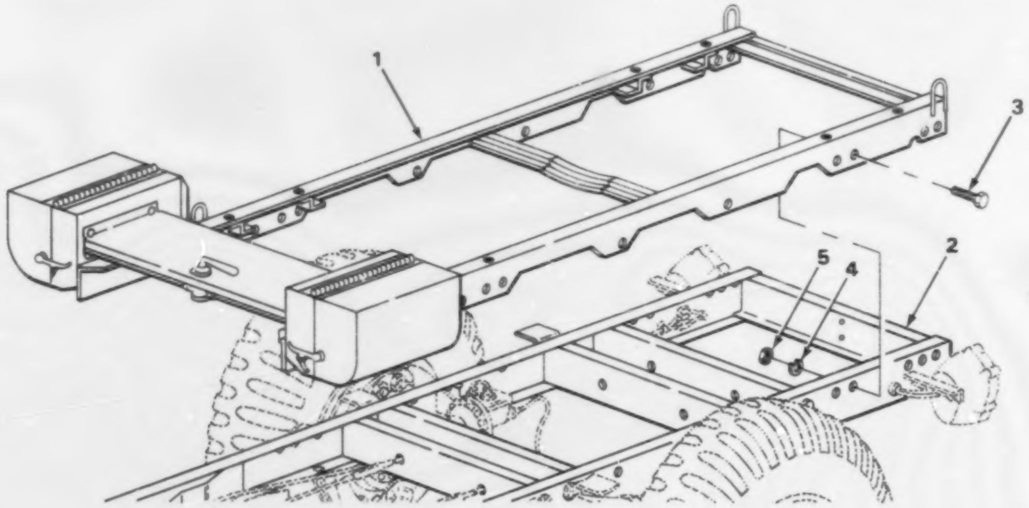
Two

Equipment Condition

Fender and fender extensions removed (page 4-152).
Tank body removed (page 5-10).

REMOVAL

LOCATION	ITEM	ACTION REMARKS
1. Body frame (1) to chassis (2)	24 bolts (3), 24 lockwashers (4), and 24 nuts (5)	Using 3/4-inch socket, ratchet handle with 1/2-inch drive, and 3/4-inch box-end wrench, unscrew and take out.
2. Chassis (2)	Body frame (1)	Using 10-ton overhead hoist and sling, take off with assistance.



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TANK BODY FRAME, M107 SERIES – CONTINUED

LOCATION	ITEM	ACTION REMARKS

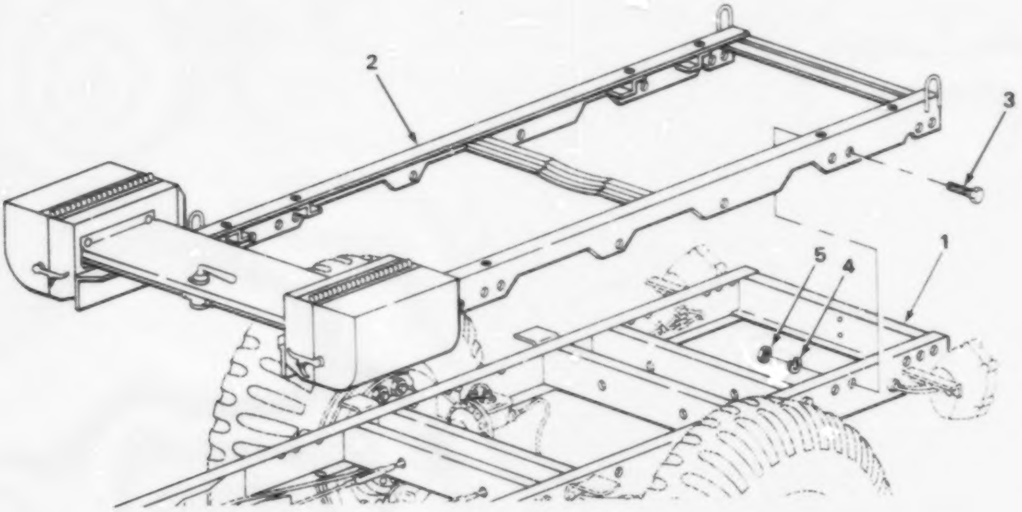
REPAIR

NOTE

To repair tank body frame, refer to TM 9-237, Welding Theory and Application.

INSTALLATION

LOCATION	ITEM	ACTION REMARKS
3. Chassis (1)	Body frame (2)	Using 10-ton overhead hoist and sling, put into position with assistance.
4. Body frame (2) to chassis (1)	24 bolts (3), 24 lockwashers (4), and 24 nuts (5)	Using 3/4-inch socket, ratchet handle with 1/2-inch drive, and 3/4-inch box-end wrench, screw in and tighten.



NOTE

FOLLOW-ON MAINTENANCE:

1. Install tank body (page 5-10).
2. Install fender and fender extensions (page 4-152).

TASK ENDS HERE

FAUCET BOXES

NOTE

Faucet boxes may be removed and installed in accordance with TM 9-237, Welding Theory and Application. Equipment condition is faucets removed (page 4-137).

TA231174

EXTERNAL VALVE, M107 SERIES

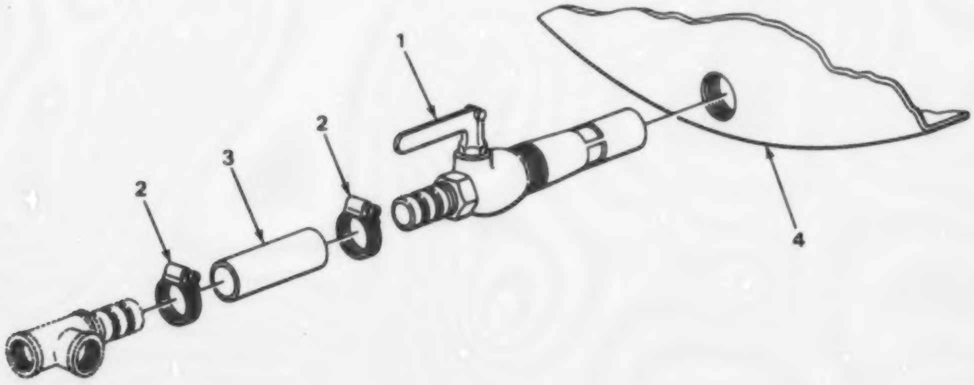
This task covers:

a. Removal (page 5-17)
b. Installation (page 5-17)

INITIAL SETUP

Tools	Materials/Parts
Screwdriver, flat-tip, 3/8-inch Wrench, pipe, 18-inch	Rubber hose (as required)

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. External valve (1)	Two clamps (2) and hose (3)	Using 3/8-inch flat-tip screwdriver, take off.
2. Body (4)	External valve (1)	Using 18-inch pipe wrench, unscrew and take out. **Discard hose.**
INSTALLATION		
3. Body (4)	External valve (1)	Using 18-inch pipe wrench, screw in and tighten.
4. External valve (1)	Two clamps (2) and new hose (3)	Using 3/8-inch flat-tip screwdriver, put on.



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SHOP VAN BODY, M448

This task covers:

a. Removal (page 5-18)
b. Repair (page 5-18)
c. Installation (page 5-18)

INITIAL SETUP

Tools	Materials/Parts
Handle, ratchet, 1/2-inch drive Hoist and sling, overhead, 10-ton Socket, 1/2-inch drive, 3/4-inch Wrench, box-end, 3/4-inch	Liner (two required)

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Body (1) to chassis (2)	Eight screws (3) and eight self-locking nuts (4)	Using 3/4-inch socket, ratchet handle with 1/2-inch drive, and 3/4-inch box-end wrench, unscrew and take out.
2. Chassis (2)	Body (1)	With assistance, using 10-ton overhead hoist and sling, take off.
3.	Two liners (5)	Take off. **Discard liner.**
REPAIR		

NOTE

To repair shop van body, refer to TM 9-237, Welding Theory and Application.

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
4. Chassis (2)	Two new liners (5)	Place in position on body.
5.	Body (1)	With assistance, using 10-ton overhead hoist and sling, place in position on chassis.

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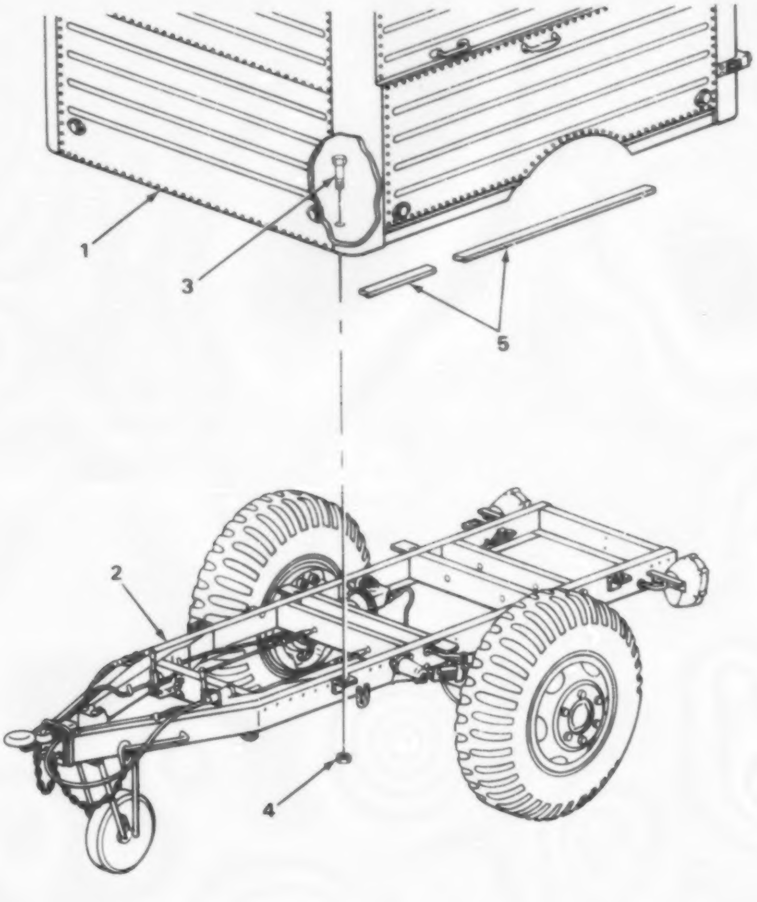
SHOP VAN BODY, M448 – CONTINUED

LOCATION	ITEM	ACTION REMARKS
6. Body (1) to chassis (2)	Eight screws (3) and eight self-locking nuts (4)	Using 3/4-inch socket, ratchet handle with 1/2-inch drive, and 3/4-inch box-end wrench, screw in and tighten.



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APPENDIX A

REFERENCES

A-1. SCOPE.

This appendix lists all publication indexes, forms, field manuals, technical manuals, technical bulletins, and miscellaneous publications referenced in this manual.

A-2. PUBLICATION INDEXES.

The following indexes should be consulted frequently for the latest changes or revisions and for new publications relating to material covered in this manual.

The Army Maintenance Management System (TAMMS)	DA PAM 738-750

A-3. FORMS.

Recommended Change to DA Publications	DA Form 2028
Recommended Change to DA Publications	DA Form 2028-2
Equipment Inspection and Maintenance Worksheet	DA Form 2404
Maintenance Request	DA Form 2407
Equipment Daily or Monthly Log	DA Form 2408-1
Equipment Transfer Report	DA Form 2408-7
Equipment Acceptance and Registration Record	DA Form 2408-8
Uncorrected Fault Record	DA Form 2408-14
Equipment Maintenance Log (Consolidated)	DA Form 2409
Preventive Maintenance Schedule and Record	DD Form 314
Processing and Deprocessing Report for Shipment, Storage, and Issue of Vehicles and Spare Engines	DD Form 1397
Quality Deficiency Report	SF 368

A-4. FIELD MANUALS.

Camouflage, Basic Principles, and Field Camouflage	FM 5-20
Operation and Maintenance of Ordnance Material in Cold Weather (0° to −65°F)	FM 9-207
Field Hygiene and Sanitation (AFM 161-10)	FM 21-10
Manual for Wheeled Vehicle Driver	FM 21-305
Cold Weather Operations	FM 31-70

A-5. TECHNICAL MANUALS.

Operator's and Organizational Maintenance Manual, Including Repair Parts and Special Tools List for Heater, Immersion, Liquid Fuel Fixed	TM 5-4540-202-12&P
Inspection, Care, and Maintenance of Antifriction Bearings	TM 9-214
Welding Theory and Application, Operator's Manual	TM 9-237
Deepwater Fording of Ordnance Material	TM 9-238

A-5. TECHNICAL MANUALS – CONTINUED.

Organizational, Direct Support, and General Support Maintenance, Care, Maintenance and Repair of Pneumatic Tires and Inner Tubes	TM 9-2610-200-24
Painting Instruction for Field Use	TM 43-0139
Railcar Loading Procedures	TM 55-601
Administrative Storage of Equipment	TM 740-90-1
Storage and Materials Handling	TM 743-200-1
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use	TM 750-244-6

A-6. TECHNICAL BULLETINS.

Tactical Wheeled Vehicles: Repair of Frames	TB 9-2300-247-40
Standards for Oversea Shipment or Domestic Issue of Combat, Tactical, and Special Purpose Vehicles	TB 9-2300-281-35
Brake Fluid, Silicone (BFS) Conversion Procedures for Tank-Automotive Equipment	TB 43-0002-87
Color Marking and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment	TB 43-0209

A-7. MISCELLANEOUS PUBLICATIONS.

Abbreviations for Use on Drawings, and in Specifications, Standards and Technical Documents	MIL-STD-12D

APPENDIX B

MAINTENANCE ALLOCATION CHART (MAC)

Section I. INTRODUCTION

B-1. GENERAL.

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

b. The Maintenance Allocation Chart (MAC) in section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS.

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or touch.)

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), preserve, drain, paint, or replenish fuel, lubricants, chemical fluids, or gases.

d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or adjusted on instruments or test measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

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B-2. MAINTENANCE FUNCTIONS – CONTINUED.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. Replace is authorized by the MAC and is shown as the third position code of the SMR code.

i. Repair. The application of maintenance services[1], including fault location/troubleshooting[2], removal/installation, and disassembly/assembly procedures[3], and maintenance actions[4] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00".

b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in column 2. See paragraph B-2 for a detailed explanation of these functions.

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[1] Services – Inspect, test, service, adjust, aline, calibrate, and/or replace.

[2] Fault locating/troubleshooting – process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).

[3] Disassembly/assembly – encompasses the step-by-step taking apart (or breakdown) of a spare/functional group coded item to the level of its least componency identified as maintenance significant (i.e., assigned an SMR code) for the category of maintenance under consideration.

[4] Actions – welding, grinding, riveting, straightening, facing, remachining, and/or resurfacing.

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B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II – CONTINUED.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a worktime figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate worktime figures will be shown for each category. The worktime figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the Maintenance Allocation Chart. The symbol designations for the various maintenance categories are as follows:

C – Operator or Crew
O – Organizational
F – Direct Support
H – General Support
D – Depot

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetical order, that shall be keyed to the remarks contained in section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, section II, column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National Stock Number. The national stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. Column 1, Reference Code. The code recorded in column 6, section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, section II.

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT	(6) REMARKS
06	ELECTRICAL SYSTEM								
0609	Lights	Replace		0.2				1	
		Repair		0.2					A
	Lamps	Replace		0.2				1	
0613	Chassis Wiring Harness	Replace		0.5					
		Repair		0.5				1,2,3	
	Intervehicular Cable	Test		0.2					
		Replace		0.2				1,2,3	
		Repair		0.2				1	
11	REAR AXLE								
1100	Rear Axle Assembly	Replace		6.0				1,2,3	
12	BRAKES								
1201	Handbrakes								
	Lever, Handbrake	Adjust		0.2					
		Replace		1.0				1	
	Cables, Handbrake	Adjust		1.0					
		Replace		1.5				1,2,3	
1202	Service Brake	Adjust		0.2				1	
		Repair		1.5				1	
	Brakeshoes	Replace			1.3			1,4	
1204	Hydraulic Brake System								
	Master Cylinder	Service		0.2					
		Replace		1.5				1	
	Wheel Cylinders	Replace		1.5				1,2,3	
	Lines and Fittings (Hydraulic)	Replace		1.5				1	

MAINTENANCE ALLOCATION CHART – CONTINUED

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
1205	Vacuum System Components								
	Vacuum Booster Assembly	Replace		1.5				1	
	Lines and Fittings	Replace		1.5					
		Repair		1.5				1	
1208	Airbrake System								
	Brake Chamber	Replace		1.0					
		Repair			1.0			1,4	
	Air Reservoir	Replace		2.0				1	
	Coupling	Replace		0.2				1	
	Filter	Replace		0.5					
		Repair		0.4				1	
	Lines and Fittings	Replace		1.5					
		Repair		1.5				1	
	Emergency Relay Valve	Replace		1.0				1	
13	WHEEL AND TRACKS								
1311	Wheel Assembly								
	Brakedrum	Replace		1.0				1	
		Repair			1.5			1,4	B
	Wheel Hub	Replace		1.5					
		Repair		1.5				1	
	Wheel Bearing	Service		1.5					
		Adjust		0.5				1	
		Replace		1.5				1	
	Oil Seal	Replace		1.0				1	
	Wheel	Replace	0.4					1	

MAINTENANCE ALLOCATION CHART – CONTINUED

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
13	WHEEL AND TRACKS - CONTINUED								
1313	Tires and Tubes								
	Tires	Replace		2.0					
		Repair			2.0			1,4	C
	Tube	Replace		2.0					
		Repair		1.0				1,4	C
15	FRAME, TOWING ATTACHMENTS, AND DRAWBARS								
1501	Frame Assembly	Repair			4.0			1,4,5,6	D
1503	Pintles and Towing Attachments	Adjust		0.2					
		Replace		0.5				1	
	Safety Chains	Replace		0.4				1	
1507	Landing Gear, Leveling Jacks								
	Landing Leg	Replace		1.0					
		Repair		2.0				1	
	Support Leg	Replace		0.5				1	
	Leveling Jacks	Replace		0.2					
		Repair			1.1			1,4,5,6	
16	SPRINGS AND SHOCK ABSORBERS								
1601	Springs								
	Main Spring	Replace		2.5				1,2,3	
	Auxiliary Spring	Replace		2.5				1,2,3	

MAINTENANCE ALLOCATION CHART – CONTINUED

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
18	BODY, CAB, AND HOOD								
1802	Fenders	Replace		1.5				1	
1810	Cargo Body	Replace		1.5					
		Repair			1.5			1,4,5,6	
	Tailgate	Replace		0.5				1	
1811	Tank Bodies								
	Tank Unit	Replace			2.5				
		Repair			4.0			1,4,5,6	
	Frame Assembly	Replace			4.0				
		Repair			1.5			1,4,5,6	
	External Valve	Replace		5.0				1	
	Piping	Replace		4.0				1	
	Manifold Valve	Replace		3.0				1	
	Faucets	Replace		1.0					
		Repair		1.5				1	
	Manhole Cover	Replace		1.5					
		Repair		1.5				1	
1812	Special Purpose Bodies								
	Body Assembly	Replace			6.5				
	•	Repair			6.5			1,4,5,6	
	Doors	Replace		1.5					
		Repair		1.5				1	
	Hinges	Replace		1.5				1	
	Side Panels	Replace		1.5					
		Repair		1.5				1	
	Door Bumpers	Replace		1.0				1	

MAINTENANCE ALLOCATION CHART – CONTINUED

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
18	BODY, CAB, AND HOOD - CONTINUED								
1812	Special Purpose Bodies – Continued								
	Latches	Replace Repair		1.0 1.0				 1	
	Seal	Replace		1.0				1	
	Ventilator	Replace		0.5				1	
	Circuit Breaker Box and Wiring	Replace Repair		2.8 2.0				 1,2,3	
	Circuit Breakers	Test Replace		0.2 1.5				1,2,3 1	
	Connector, Electrical Receptacle	Test Replace		0.2 1.5				1,2,3 1	
	Conduit	Replace		3.5				1	
	Connector Receptacle	Replace		1.0				1	
	Junction Box	Replace		1.0				1	
22	BODY AND CHASSIS ACCESSORY ITEMS								
2201	Canvas	Replace Repair		0.2 1.0				 1	
2202	Accessory Items								
	Reflectors	Replace		0.2				1	
2210	Data Plates and Instruction Holders	Replace		0.2				1	

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Section III. TOOLS AND TEST EQUIPMENT REQUIREMENTS

(1) REFERENCE CODE	(2) MAINTENANCE CATEGORY	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER	(5) TOOL NUMBER
1	O, F, H	Tool Kit, General Mechanic's	5180-00-177-7033	
2	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1, Less Power	4910-00-754-0654	
3	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 2, Less Power	4910-00-754-0650	
4	F	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Supplemental No. 1	4910-00-754-0706	
5	F	Tool Kit, Welder's	5180-00-754-0661	
6	F	Shop Equipment, Welding, Field Maintenance	3470-00-357-7268	

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Section IV. REMARKS

REFERENCE CODE	REMARKS
A	Composite light, taillight, stoplight, and blackout light repair limited to door, packing, gasket, and lamp replacement.
B	Brakedrum repair limited to refacing braking surface using a brakedrum lathe.
C	Refer to TM 9-2610-200-24 for tire and tube repair.
D	Frame repair consists of welding, straightening, and reconditioning the damaged part or parts.

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APPENDIX C

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

C-1. SCOPE.

This appendix lists components of end item and basic issue items for the ammunition trailer to help you inventory items required for safe and efficient operation.

C-2. GENERAL.

The components of End Item and Basic Issue Items Lists are divided into the following sections:

a. Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the ammunition trailer in operation, operate it, and perform emergency repairs. Although shipped separately packaged, BII must be with the ammunition trailer during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

C-3. EXPLANATION OF COLUMNS.

The following provides and explanation of columns found in the tabular listings:

a. Column 1, Illustration Number (Illus No.). This column indicates the number of the illustration in which the item is shown.

b. Column 2, National Stock Number. Indicates the national stock number assigned to the item and will be used for requisitioning purposes.

c. Column 3, Description. Indicates the Federal item name and, if required, a minimal description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number. If item needed differs for different models of this equipment the model is shown under the Usable On Code heading in this column.

d. Column 4, Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr).

e. Column 5, Quantity Required (Qty Req'd). Indicates the quantity of the item to be used with/on the equipment.

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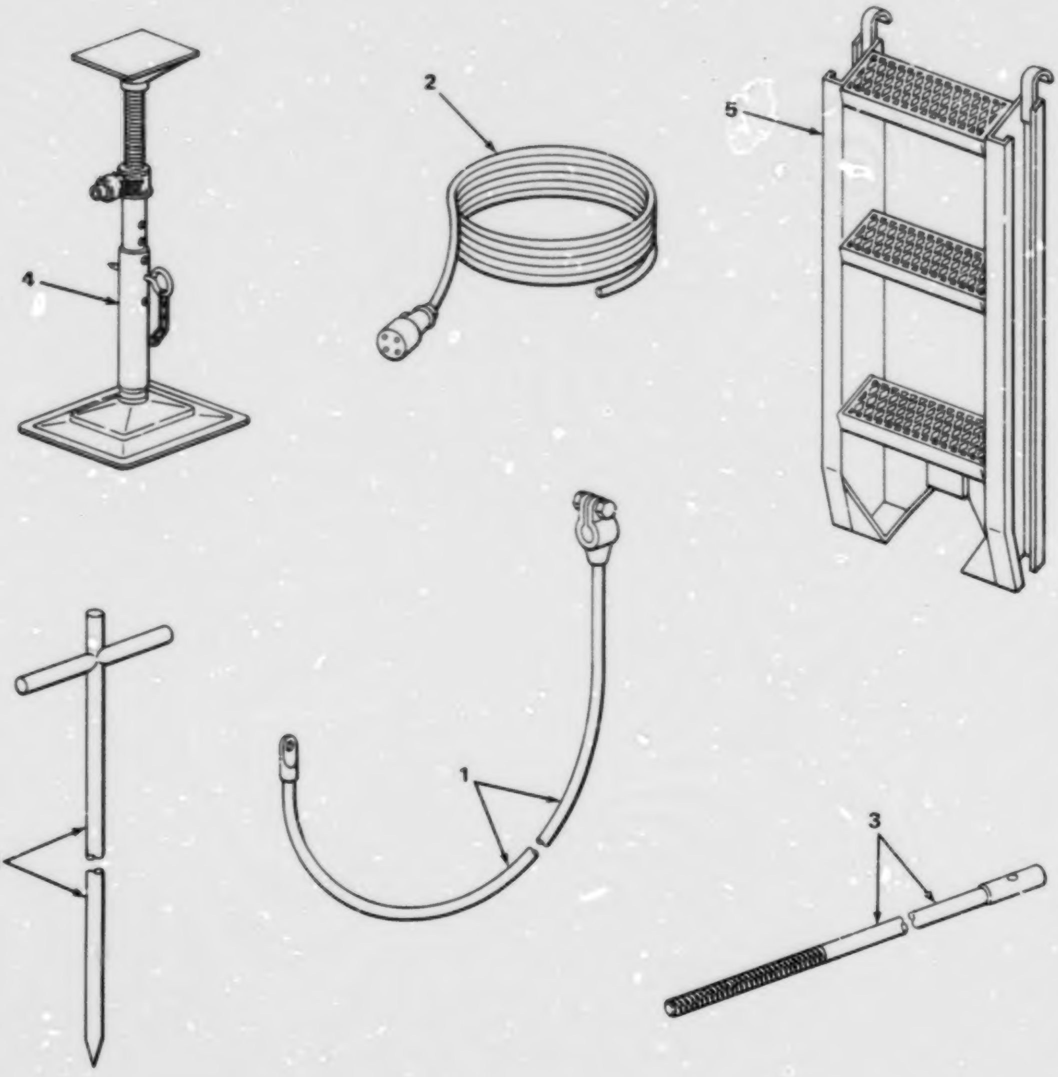
Section II. COMPONENTS OF END ITEM

NONE AUTHORIZED

Section III. BASIC ISSUE ITEMS



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BASIC ISSUE ITEMS – CONTINUED

(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY REQ'D
1	6140-00-792-8294	Cable, Ground: 65-Inch-Long (7335514) (19207)	M448	EA	1
2	2590-00-790-2297	Cable, Power, Electrical: 120-Inch-Long (10885376) (19207)	M448	EA	1
3	2590-00-790-2293	Handle, Leveling Jack: Straight Bar, 3/4-Inch-Diameter, 19-Inch-Long (7534675) (19207)	M448	EA	1
4	2590-00-491-6856	Jack, Leveling, Vehicle, Portable: (10885200) (19207)	M448	EA	2
5	2540-00-961-1307	Ladder: Vehicle Boarding, Aluminum, 3-Step (10885309) (19207)	M448	EA	1
6	2510-00-790-2296	Rod: Ground, 3/4-Inch-Diameter, 30-Inch-Long, With Crossbar (8380403) (19207)	M448	EA	1

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APPENDIX E

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1. SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the trailers. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

E-2. EXPLANATION OF COLUMNS.

a. Column 1, Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., Use sealing compound, item 8, appendix D).

b. Column 2, Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Organizational
F - Direct Support
H - General Support

c. Column 3, National Stock Number. This is the national stock number assigned to the item; use it to request or requisition the item.

d. Column 4, Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column 5, Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

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Section II. EXPENDABLE SUPPLIES AND MATERIALS

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION (FSCM)	(5) U/M
1	O		Container, Empty 1-quart	ea
2	C	6810-00-900-6276	(DESC) Sodium Hypochlorite: Liquid Laundry Bleach (81348) 0-5-602	cn
3	O		Brake Fluid, Silicone (BFS) (81349) MIL-B-46176	
		9150-01-102-9455	1-Gallon Can	oz
4	O		Oil, Lubricating, OE/HDO-10 (81349) MIL-L-2104C	
		9150-00-189-6727	1-Quart Can	oz
		9150-00-186-6668	5-Gallon Can	oz
		9150-00-191-2772	55-Gallon Drum	oz
5	O		Grease, Automotive and Artillery (81349) MIL-G-10924	
		9150-00-190-0904	1-Pound Can	oz
6	O		Oil, Lubricating, OE/HDO-30 (81349) MIL-L-2104C	
		9150-00-188-9858	5-Gallon Can	oz
		9150-00-189-6729	55-Gallon Drum (18-Gage)	oz
7	O		Oil, Lubricating OEA (81349) MIL-L-46167	
		9150-00-402-4478	1-Quart Can	oz
		9150-00-402-2372	5-Gallon Can	oz
		9150-00-495-7197	55-Gallon Drum (18-gage)	oz
8	O		Plastic Tubing	ft
9	O		Rags, Wiping (58536) A-A-531	
		7920-00-205-1711	50-Pound Bale	ea
10	O	7930-00-899-9534	(DESC) Dishwashing Compound, Liquid Hand (81348) P-D-410	gal.

EXPENDABLE SUPPLIES AND MATERIALS – CONTINUED

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION (FSCM)	(5) U/M
11	O		Solvent, Drycleaning (81349) P-D-680 Type II	
		6850-00-664-5685	1-Quart Can	oz
		6850-00-281-1985	1-Gallon Can	oz
		6850-00-285-8011	55-Gallon Drum	oz
12	O	9905-00-537-8954	Tags, Marker	roll
13	O		Tape, Antiseizing, Pipe Joint Sealer	roll
		8030-00-067-7368	(71643) 1/4 Inch Wide, 54 Feet Long	ft
		8030-00-889-3535	(76381) 1/2 Inch Wide, 260 Inches Long	ft
14	F	5350-00-638-8138	Silica Sand, Grit Size 200, Medium Grade 50-Pound Drum	lb

APPENDIX F

REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL)

SECTION I. INTRODUCTION

1. Scope.

This manual lists and authorizes spares and repair parts; special tools; special Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for performance of organizational, direct support, and general support maintenance of the Trailers. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the Source, Maintenance and Recoverability (SMR) codes.

2. General.

This Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL for the performance of maintenance.

c. Section IV. National Stock Number and Part Number Index. A list, in National Item Identification Number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

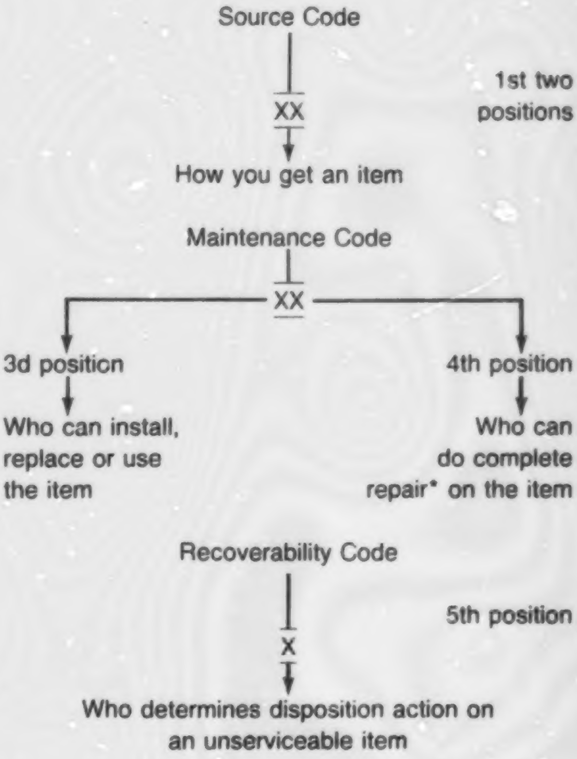
3. Explanation of Columns.

a. Illustration (Column (1)). This column is divided as follows:

(1) ((a) FIG NO.) Figure Number. Indicates the figure number illustrating an exploded view of a functional group.

(2) ((b) ITEM NO.). Indicates the number used to identify items called out in the illustration.

b. SMR CODE (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:


Source Code
XX
1st two positions
How you get an item
Maintenance Code
XX
3d position
Who can install, replace or use the item
4th position
Who can do complete repair* on the item
Recoverability Code
X
5th position
Who determines disposition action on an unserviceable item

*Complete Repair: Maintenance capacity, capability, and authority to perform all the corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Source codes are always the first two positions of the SMR code. Explanations of source codes follow:

Code	Explanation
PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
MO-(Made at Org Category) MF-(Made at DS Category) MH-(Made at GS Category) MD-(Made at Depot)	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by NSN in the Description column and listed in the Bulk Material group in the repair parts list in this manual. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.
AO-(Assembled by Org Category AF-(Assembled by DS Category AH-(Assembled by GS Category AD-(Assembled by Depot)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.
XA	Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)
XB	If an "XB" item is not available from salvage, order it using the FSCM and part number given.
XC	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number. Not applicable.
XD	Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

NOTE: Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA".

(2) Maintenance Code. Maintenance codes tell you the category(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

Code	Application/Explanation
C	-Crew or operator maintenance done within organization maintenance.
O	-Organizational category can remove, replace, and use the item.
F	-Direct support category can remove, replace, and use the item.
H	-General support category can remove, replace, and use the item.
L	-Specialized repair activity can remove, replace, and use the item.
D	-Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e., perform all authorized repair functions). (NOTE: Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	-Organizational is the lowest category that can do complete repair of the item.
F	-Direct support is the lowest category that can do complete repair of the item.
H	-General support is the lowest category that can do complete repair of the item.
L	-Specialized repair activity is the lowest category that can do complete repair of the item.
D	-Depot is the lowest category that can do complete repair of the item.
Z	-Nonreparable. No repair is authorized.
B	-No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:

Recoverability Codes	Definition
Z	-Nonreparable item. When unserviceable, condemn and dispose of the item at the category of maintenance shown in 3d position of SMR code.
O	-Reparable item. When uneconomically reparable, condemn and dispose of the item at organizational category.
F	-Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support category.
H	-Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support category.
D	-Reparable item. When beyond lower category repair capability, return to depot. Condemnation and disposal of item not authorized below depot category.
L	-Reparable item. Condemnation and disposal not authorized below specialized repair activity.
A	-Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manuals/directives for specific instructions.

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c. NATIONAL STOCK NUMBER (Column (3)). Lists the National Stock Number (NSN) assigned to the item. Use the NSN for requests/requisitions.

d. FSCM (Column (4)). The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

e. PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristic of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE: When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered, but go ahead and use or furnish it as the replacement part.

f. DESCRIPTION (Column (6)). This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) The physical security classification. Not applicable.

(3) Items that are included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry. If the first item of a figure is indented, the assembly appears as the last item in the previous figure.

(5) NSN's for bulk materials are referenced in the description column in the line item entry for the item to be manufactured/fabricated.

(6) When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description.

(7) The USABLE ON CODE. When applicable (see paragraph 4, Special Information).

(8) In the Special Tools List section, the Basis Of Issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

g. U/M (Column (7)). The unit of Measure (U/M) indicates the measure (e.g., foot, gallon, pound) or count (e.g., each, dozen, gross) of a listed item. A two-character alpha code (e.g., FT, GL, LB, EA, DZ, GR) appears in this column to indicate the measure or count. If the U/M code appearing in this column differs from the Unit of Issue (U/I) code listed in the Army Master Data File (AMDF), request the lowest U/I that will satisfy your needs.

h. QTY INC IN UNIT (Column (8)). The Quantity Incorporated in Unit (QTY INC IN UNIT) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers).

4. SPECIAL INFORMATION.

a. The "USABLE ON CODE" title appears in the lower right corner of column (6), Description. Usable on codes are shown in the right-hand margin of the description column. Uncoded items are applicable to all models. Identification of the usable on codes used in this publication are:

Code	Used On	Code	Used On
698	M105A2C	707	M103A2
699	M103A3C	711	M103A3
701	M448	712	M103A4
702	M103A1	713	M105A2
704	M105A1	714	M107A2
706	M107A1	715	M107A2C

b. Bulk materials required to manufacture items are listed in the Bulk Material Group of this manual. NSN's for bulk materials are also referenced in the description column of the line item entry for the item to be manufactured/fabricated. Detailed manufacturing instructions for items source coded to be manufactured or fabricated are found in the appropriate appendices of this manual.

c. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in the appropriate appendices of this manual. Items that make up the assembly are listed immediately following the assembled item entry.

d. Line item entries for repair kits and sets appear as the last entries in the repair parts listing for the figure in which their parts are listed as repair parts.

e. Items which have the word BULK in the figure number column will have an index number shown in the item number column. This index number is furnished for use as a cross-reference between the National Stock Number/Part Number Index and the Bulk Material List in Section II.

5. How to Locate Repair Parts.

a. When National Stock Number or Part Number is Not Known:

(1) First. Using the table of contents, determine the functional group to which the item belongs. This is necessary since figures are prepared for functional groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the functional group to which the item belongs.

(3) Third. Identify the item on the figure and note the item number of the item.

(4) Fourth. Refer to the Repair Parts List for the figure to find the line item entry for the item number noted on the figure.

b. When National Stock Number or Part Number is Known:

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent national stock number or part number. The NSN index is in National Item Identification Number (NIIN)* sequence. The part numbers in the Part Number Index are listed in ascending alphanumeric sequence. Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

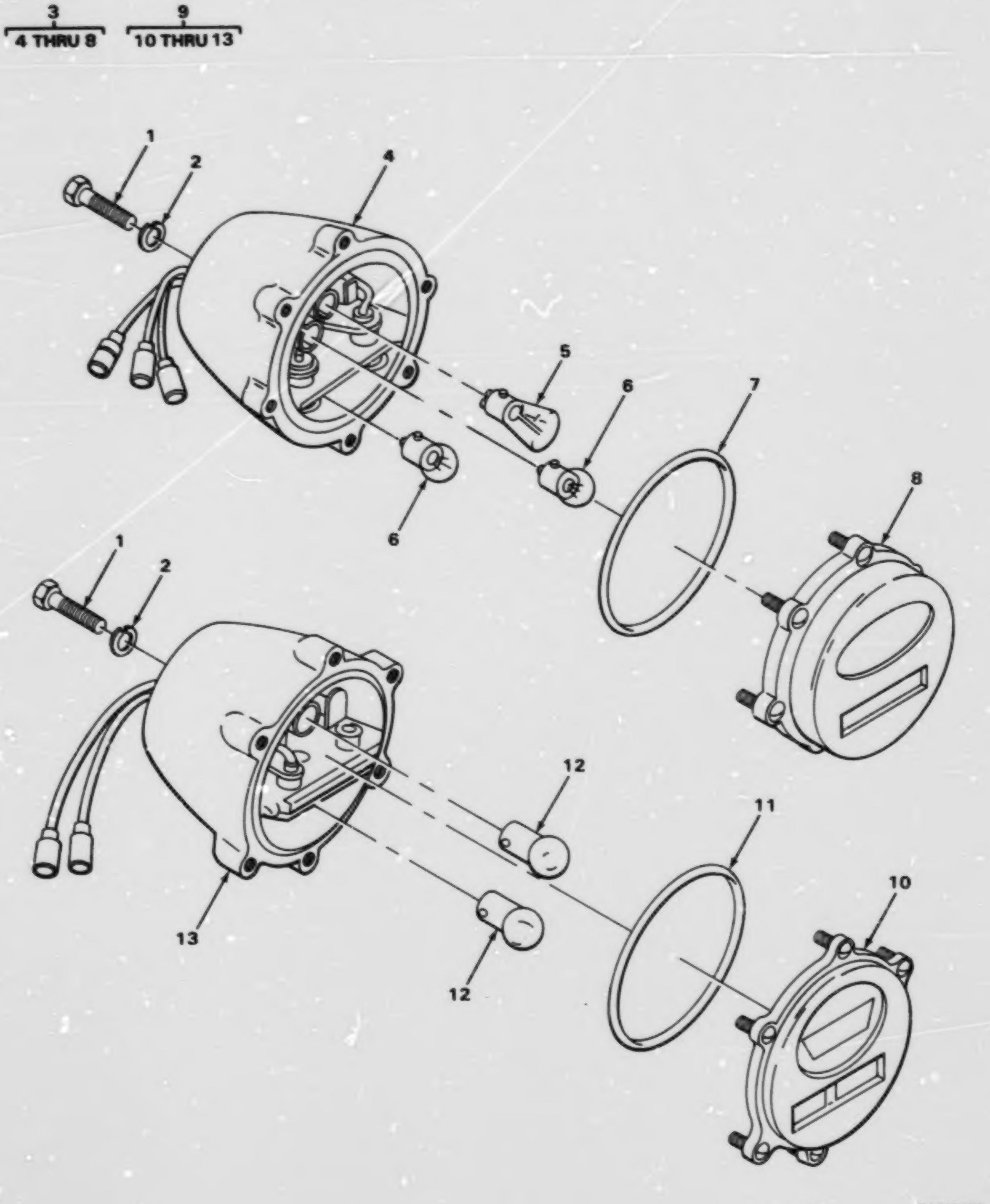
*The NIIN consists of the last 9 digits of the NSN

NSN
(i.e., 5305-01-674-1467).
NIIN

(2) Second. After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

6. Abbreviations.

For standard abbreviations see MIL-STD-12D, Military Standard Abbreviations For Use On Drawing, Specifications, Standards And in Technical Documents.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4 THRU 8
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10 THRU 13
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FIGURE 1. BLACKOUT TAIL AND STOPLIGHT.

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REPAIR PARTS LIST

(1) ILLUS-TRATION (a) FIG. NO.	(1) ILLUS-TRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 06-ELECTRICAL SYSTEM 0609-LIGHTS		
1	1	PFOZZ		96906	MS35291-58	SCREW,CAP,HEXAGON H..................................	EA	4
1	2	PAOZZ	5310-01-130-9065	96906	MS35338-46	WASHER,LOCK..	EA	4
1	3	PA000	6220-00-669-5623	96906	MS51329-1	STOP LIGHT-TAILLIGH COMPONENTS SAME FOR ALL MODELS. EXCEPT MODELS M103A1,M105A1,M107A1 AND M103A2 USE 1 STOP LIGHT-TAILLIGHT AND ALL OTHER MODELS USE 2 ....702.704.706.707	EA	1
1	3	PA000	6220-00-669-5623	96906	MS51329-1	STOP LIGHT-TAILLIGH..... 698.699.701.711.712.713.714.715	EA	2
1	4	PAOZZ	6220-00-500-0437	96906	MS53047-1	.BODY..	EA	1
1	5	PAOZZ	6240-00-044-6914	96906	MS35478-1683	.LAMP,INCANDESECNT...................................	EA	1
1	6	PAOZZ	6240-00-019-0877	96906	MS15570-1251	.LAMP,INCANDESCENT...................................	EA	2
1	7	PAOZZ	5330-00-297-7106	19207	7320658	.PACKING,PREFORMED TAILLIGHT.........................	EA	1
1	8	PAOZZ	6220-00-752-6020	19207	7526020	.DOOR ASSEMBLY,LIGHT TAILLIGHT.......................	EA	1
1	9	PF000		96906	MS51330-1	STOP LIGHT-TAILLIGH......................702.704.706.707	EA	1
1	10	PAOZZ	6220-00-752-6018	19207	7526C18	.DOOR ASSEMBLY,BLACK TAILLIGHT-STOPLIGHT...702.704.706. 707	EA	1
1	11	PAOZZ	5330-00-297-7106	19207	7320658	.PACKING,PREFORMED.......................702.704.706.707	EA	1
1	12	PAOZZ	6240-00-044-6914	96906	MS35478-1683	.LAMP,INCANDESCENT.......................702.704.706.707	EA	2
1	13	PAOZZ	6220-00-500-0437	96906	MS53047-1	.BODY....................................702.704.706.707	EA	1

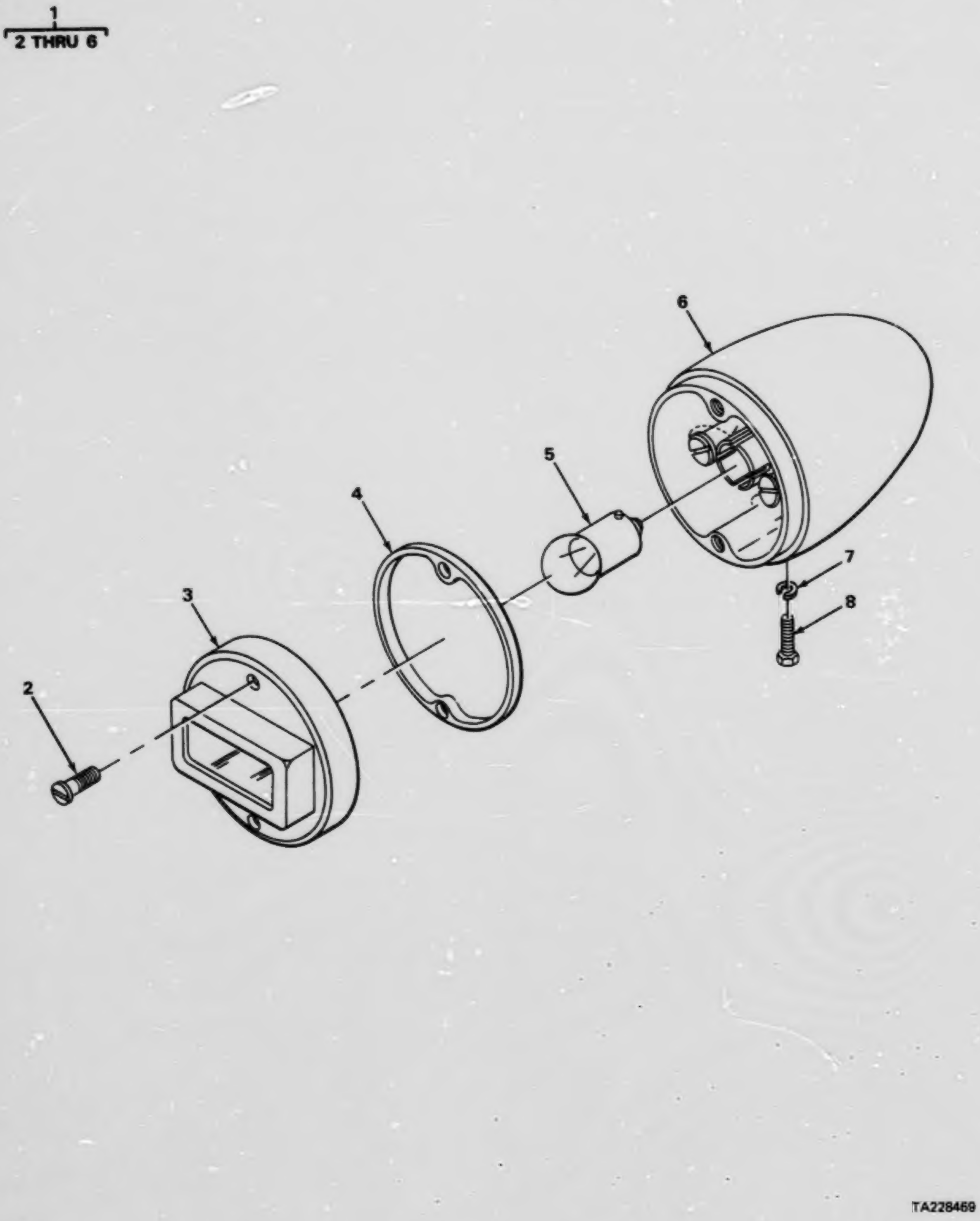
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FIGURE 2. BLACKOUT STOPLIGHT (M105A2C, M103A3C, M448, M103A3, M103A4, M105A2, M107A2, M107A2C).

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						0609(CONT)		
2	1	PAOOO	6220-00-846-9745	96906	MS51302-1	STOP LIGHT.VEHICULA BLACKOUT 698.699.701.711.712.713. 714.715	EA	1
2	2	PAOZZ	5305-00-764-0070	96906	MS51959-46	.SCREW.MACHINE STOPLIGHT DOOR..698.699.701.711.712.713. 714.715	EA	2
2	3	PAOZZ	6220-00-775-2384	19207	8741646	.DOOR ASSEMBLY. STOP....698.699.701.711.712.713.714.715	EA	1
2	4	PAOZZ	5330-00-678-9047	73331	5942528	.GASKET STOPLIGHT DOOR..698.699.701.711.712.713.714.715	EA	1
2	5	PAOZZ	6240-00-019-0877	96906	MS15570-1251	.LAMP.INCANDESCENT.......698.699.701.711.712.713.714.715	EA	1
2	6	PAOZZ	6220-00-433-5966	19207	8741650	.HOUSING.BLACKOUT LI.....698.699.701.711.712.713.714.715	EA	1
2	7	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER.LOCK..............698.699.701.711.712.713.714.715	EA	1
2	8	PAOZZ	5306-00-225-9084	96906	MS90726-29	BOLT.MACHINE.............698.699.701.711.712.713.714.715	EA	1

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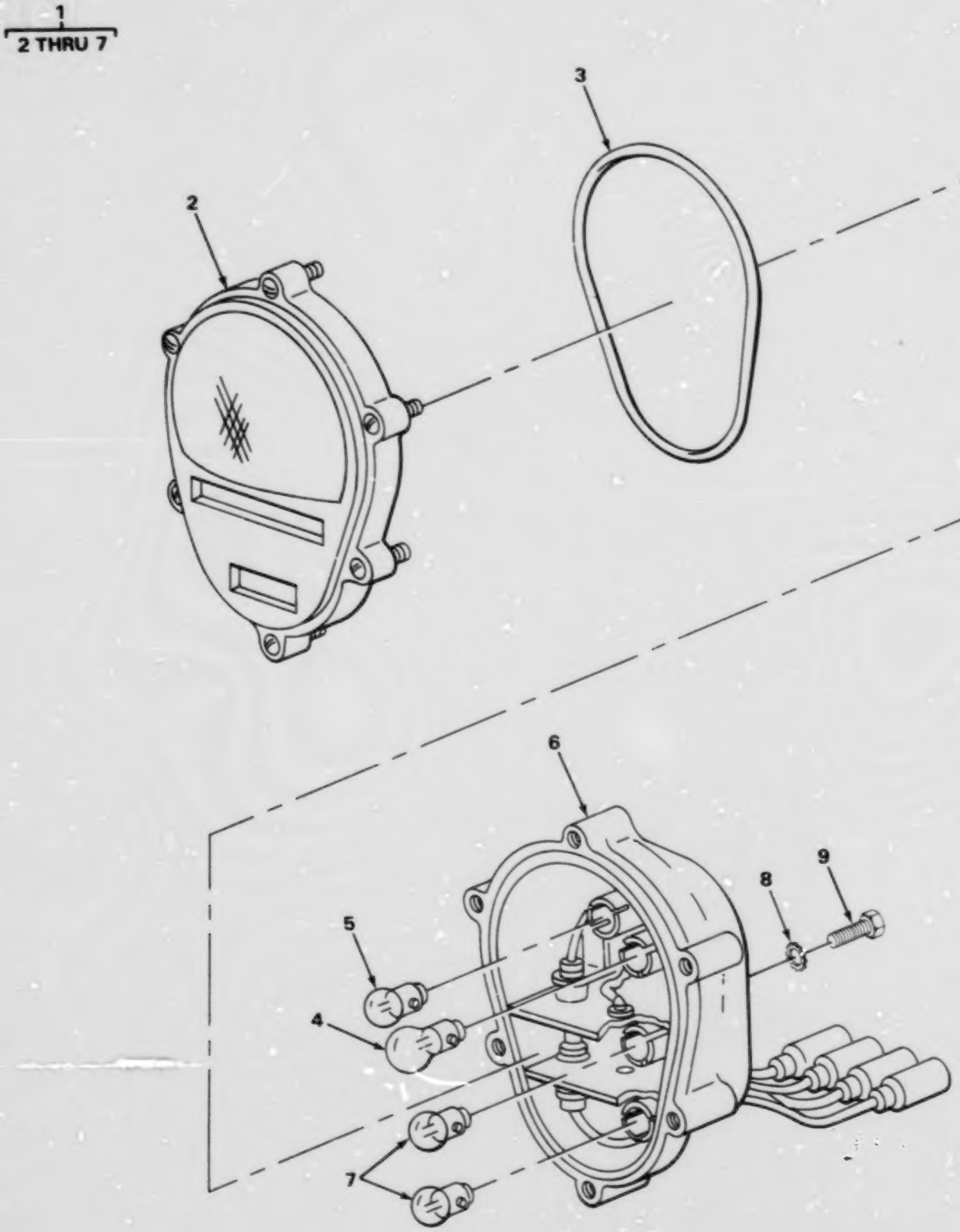
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FIGURE 3. REAR COMPOSITE MARKER LIGHT.

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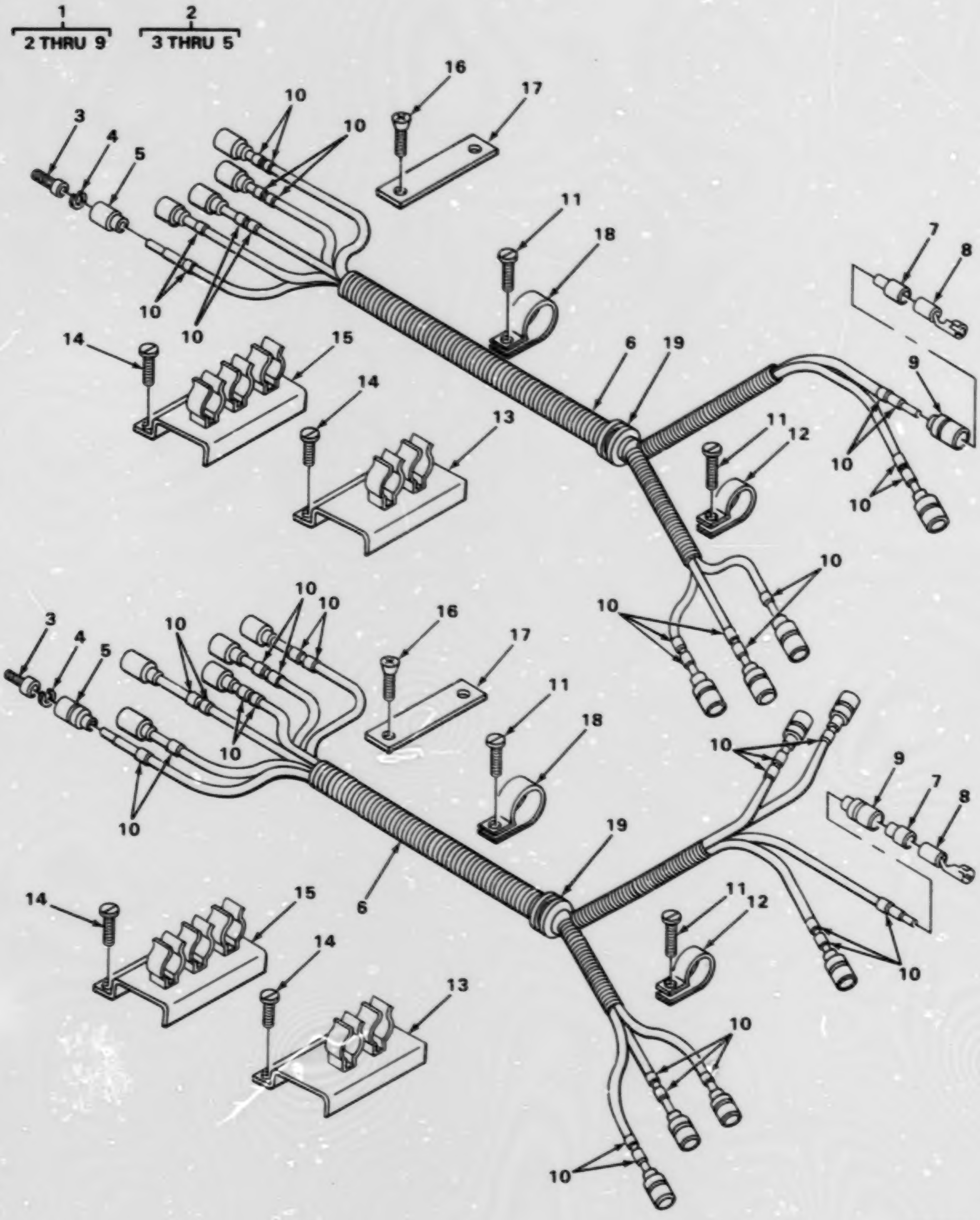
(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						0609(CONT)		
3	1	PFOOO	6220-01-093-4439	96906	MS52125-2	LIGHT ASSEMBLY REAR COMPOSITE	EA	2
3	2	PAOZZ	6220-00-179-4324	19207	11639535	.LENS,LIGHT COMPOSITE TAIL LIGHT	EA	1
3	3	PAOZZ	5330-00-462-0907	19207	11639519-2	.PACKING,PREFORMED COMPOSITE TAIL LIGHT DOOR	EA	1
3	4	PAOZZ	6240-00-044-6914	96906	MS35478-1683	.LAMP,INCANDESCENT	EA	1
3	5	PAOZZ	6240-00-019-3093	96906	MS15570-623	.LAMP,INCANDESCENT	EA	1
3	6	PAOZZ	2510-01-067-4717	19207	11639520	.BODY COMPOSITE LIGHT	EA	1
3	7	PAOZZ	6240-00-019-0877	96906	MS15570-1251	.LAMP,INCANDESCENT	EA	2
3	8	PAOZZ	5310-01-130-9065	96906	MS35338-46	WASHER,LOCK	EA	4
3	9	PAOZZ	5305-00-269-3210	96906	MS90725-59	SCREW,CAP,HEXAGON H	EA	4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3 THRU 5
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FIGURE 4. CHASSIS WIRING HARNESS.

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						0613-CHASSIS WIRING HARNESS		
4	1	PAOOO	2590-00-622-4588	19207	8747910	WIRING HARNESS CHASSIS WIRING HARNESS.COMPONENTS SAME AS P/N 11652182, EXCEPT WHERE INDIVIDUAL COMPONENTS ARE ANNOTATED................702.704.706.707	EA	1
4	1	PAOOO	2590-00-004-6841	19207	11652182	WIRING HARNESS,BRAN CHASSIS,TRAILER....698.699.701.711. ....712.713.714.715	EA	1
4	2	PAOOO	5935-00-776-0599	19207	7760599	.CONNECTOR,PLUG,ELEC WIRING HARNESS.....702.704.706.707	EA	5
4	2	PAOOO	5935-00-776-0599	19207	7760599	.CONNECTOR,PLUG,ELEC.....698.699.701.711.712.713.714.715	EA	6
4	3	PAOZZ	5999-00-057-2929	96906	MS27148-2	..CONTACT,ELECTRICAL................................	EA	1
4	4	PAOZZ	5310-00-833-8567	19207	8338567	..WASHER,SLOTTED WIRING HARNESS....................	EA	1
4	5	PAOZZ	5935-00-572-9180	19207	8338566	..SHELL,ELECTRICAL CO WIRING HARESS................	EA	1
4	6	PAOZZ	6145-00-152-6499	81349	M13486-1-5	.WIRE,ELECTRICAL....................................	FT	V
4	7	PAOZZ	5970-00-833-8562	19207	8338562	.INSULATOR,BUSHING WIRING HARNESS.......702.704.706.707	EA	5
4	7	PAOZZ	5970-00-833-8562	19207	8338562	.INSULATOR,BUSHING WIRING HARNESS..698.699.701.711.712. ....713.714.715	EA	7
4	8	PAOZZ	5940-00-399-6676	19207	8338564	.TERMINAL ASSEMBLY......................702.704.706.707	EA	5
4	8	PAOZZ	5940-00-399-6676	19207	8338564	.TERMINAL ASSEMBLY WIRING HARNESS..698.699.701.711.712. ....713.714.715	EA	7
4	9	PAOZZ	5935-00-833-8561	19207	8338561	.SHELL,ELECTRICAL CO WIRING HARNESS.....702.704.706.707	EA	5
4	9	PAOZZ	5935-00-833-8561	19207	8338561	.SHELL,ELECTRICAL CO CHASSIS WIRING HARNESS...698.699. ....701.711.712.713.714.715	EA	7
4	10	PFOZZ		96906	MS39020-1	BAND,MARKER.............................702.704.706.707	EA	16
4	10	PFOZZ		96906	MS39020-1	BAND,MARKER.............698.699.701.711.712.713.714.715	EA	21
4	11	PAOZZ	5305-00-855-0964	96906	MS24629-48	SCREW,TAPPING,THREA.................................	EA	8
4	12	PAOZZ	5340-00-282-7544	96906	MS21333-35	CLAMP,LOOP CHASSIS WIRING HARNESS..................	EA	4
4	13	PAOZZ	5340-00-040-2364	19207	8347212	CLIP ASSEMBLY TENSION,CHASSIS WIRING HARNESS.......	EA	1
4	14	PAOZZ	2590-00-670-1997	19207	7979974	SCREW,TAPPING,THREA.................................	EA	4
4	15	PAOZZ	5340-00-040-2365	19207	8347213	CLIP,SPRING TENSION.....................702.704.706.707	EA	1
4	15	PAOZZ	2590-00-611-7883	19207	8747908	CLIP ASSY,SPRING,TE HARNESS....698.699.701.711.712.713. ....714.715	EA	2
4	15	PAOZZ	2590-00-611-7883	19207	8747908	CLIP ASSY,SPRING,TE.....................702.704.706.707	EA	1
4	15	PAOZZ	2590-00-611-7884	19207	8747909	CLIP ASSY SPRING,TE WIRING HARNESS.....698.699.701.711. ....712.713.714.715	EA	1
4	16	PAOZZ	5305-00-855-0956	96906	MS24629-47	SCREW,TAPPING,THREA.................................	EA	2

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						0613(CONT)		
4	17	XDOZZ		19207	7979985	STRAP...	EA	1
4	18	PAOZZ	5340-01-185-2810	19207	7979250	CLAMP LOOP	EA	4
4	19	PAOZZ	5325-00-249-6352	96906	MS35489-72	GROMMET NONMETALLIC	EA	1

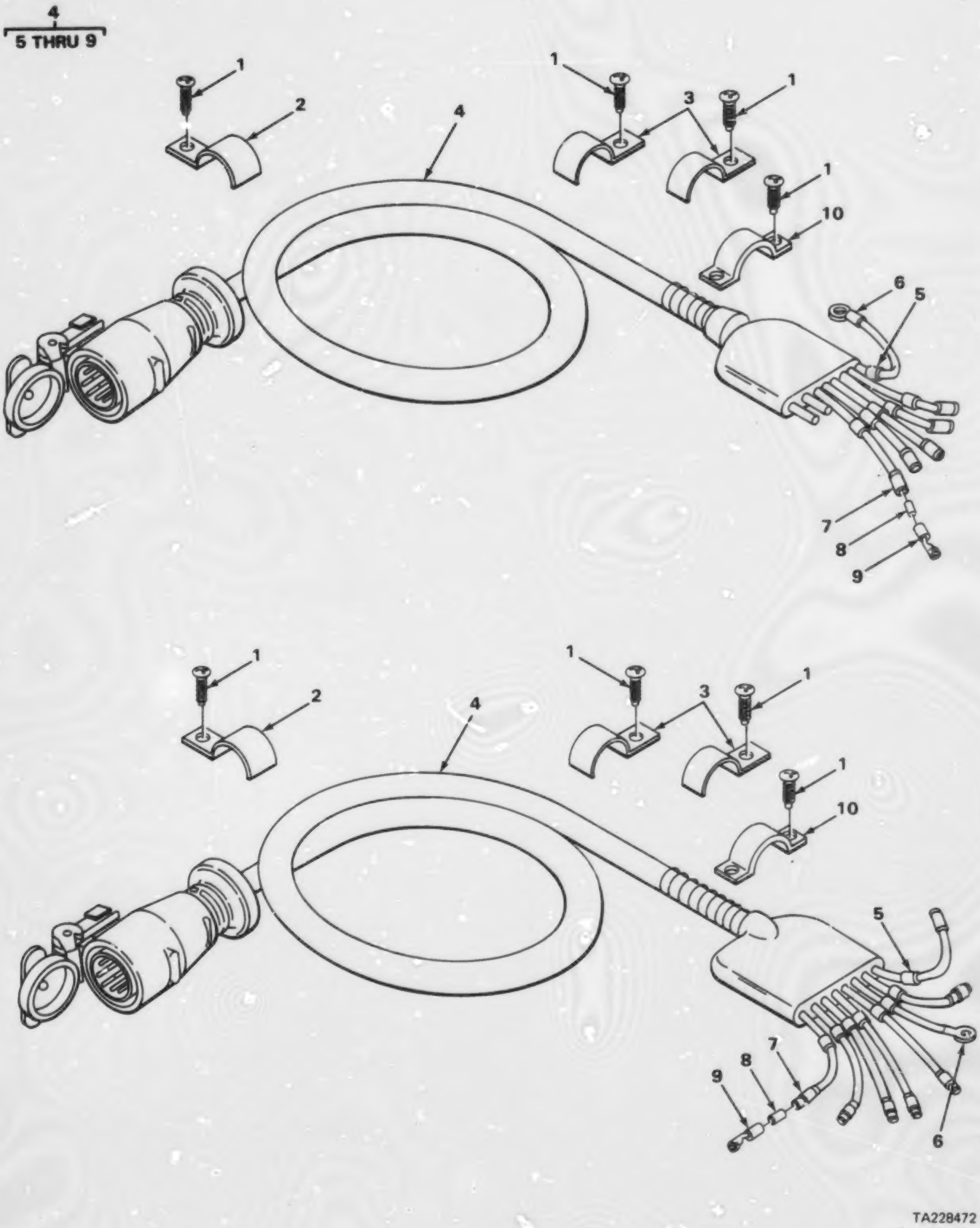
4
5 THRU 9
1
2
3
4
5
6
7
8
9
10
TA228472

FIGURE 5. INTERVEHICULAR CABLE.

(1) ILLUS-TRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						0613(CONT)			
5	1	PAOZZ	5305-00-855-0956	96906	MS24629-47	SCREW,TAPPING,THREA		EA	5
5	2	PAOZZ	5340-00-281-1444	19207	8331537	STRAP,RETAINING INTERVEHICULAR CABLE		EA	1
5	3	PAOZZ	5340-00-281-1446	19207	8331536	STRAP,RETAINING		EA	2
5	4	PAOOO	2590-00-330-3629	01475	SW500-43	WIRING HARNESS INTERVEHICULAR CABLE COMPONENTS SAME AS P/N 8683516,EXCEPT WHERE INDIVIDUAL COMPONENTS ARE ANNOTATED	702,704,706,707	EA	1
5	4	PAOOO	2590-00-830-6663	19207	8683516	CABLE ASSEMBLY,SPEC INTERVEHICULAR CABLE	698,699,701,711,712,713,714,715	EA	1
5	5	PFOZZ		96906	MS39020-1	.BAND	702,704,706,707	EA	11
5	5	PFOZZ		96906	MS39020-1	.BAND	698,699,701,711,712,713,714,715	EA	13
5	6	PAOZZ	5940-00-230-0515	96906	MS25036-154	.TERMINAL	702,704,706,707	EA	5
5	6	PAOZZ	5940-00-230-0515	96906	MS25036-154	.TERMINAL	698,699,701,711,712,713,714,715	EA	7
5	7	PAOZZ	5935-00-833-8561	19207	8338561	.CONNECTOR	702,704,706,707	EA	5
5	7	PAOZZ	5935-00-833-8561	19207	8338561	.CONNECTOR	698,699,701,711,712,713,714,715	EA	7
5	8	PAOZZ	5970-00-833-8562	19207	8338562	.INSULATOR,BUSHING HARNESS	702,704,706,707	EA	5
5	8	PAOZZ	5970-00-833-8562	19207	8338562	.INSULATOR,BUSHING CHASSIS WIRING HARNESS	698,699,701,711,712,713,714,715	EA	7
5	9	PAOZZ	5940-00-399-6676	19207	8338564	.TERMINAL ASSEMBLY CHASSIS WIRING HARNESS	702,704,706,707	EA	5
5	9	PAOZZ	5940-00-399-6676	19207	8338564	.TERMINAL ASSEMBLY HARNESS	698,699,701,711,712,713,714,715	EA	7
5	10	XDOZZ		19207	8384191	CLIP		EA	1

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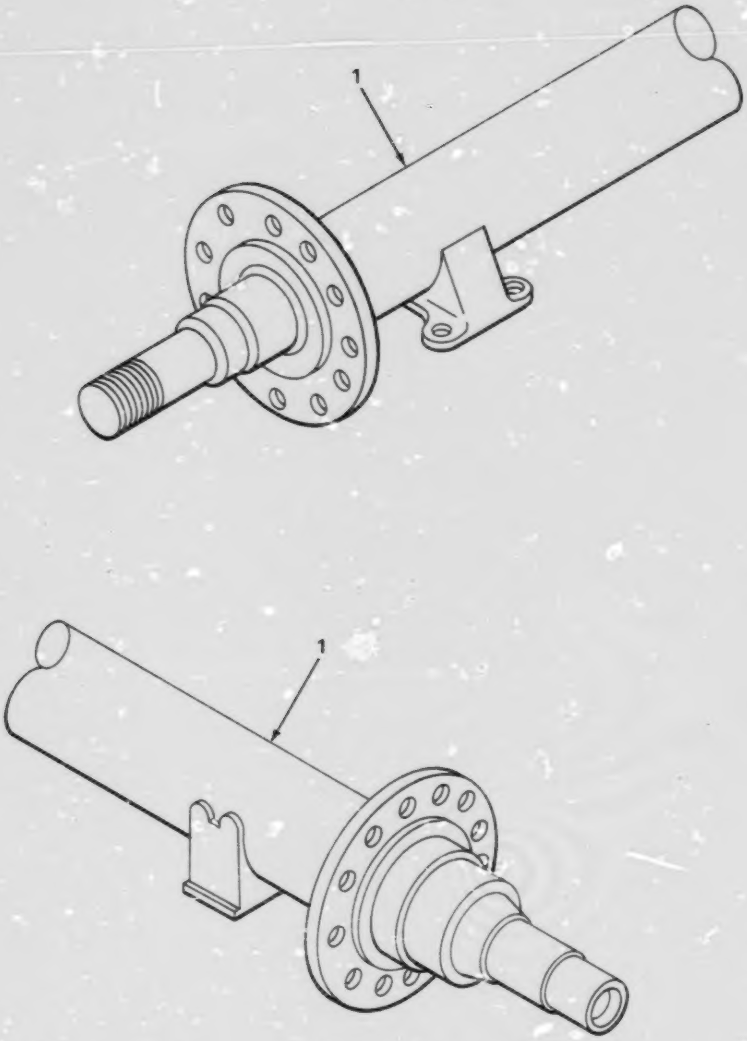
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FIGURE 6. REAR AXLE.

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 11-REAR AXLE 1100-REAR AXLE ASSEMBLY		
6	1	PAOZZ	2530-00-741-1005	78500	A1-3216S981	AXLE,VEHICULAR,NOND WITH FLANGE AND SPRING SEAT....702, ...704,706,707	EA	1
6	1	PAOZZ	2530-00-323-8538	12603	SA20160	AXLE,VEHICULAR,NOND......698,699,701,711,712,713,714,715	EA	1

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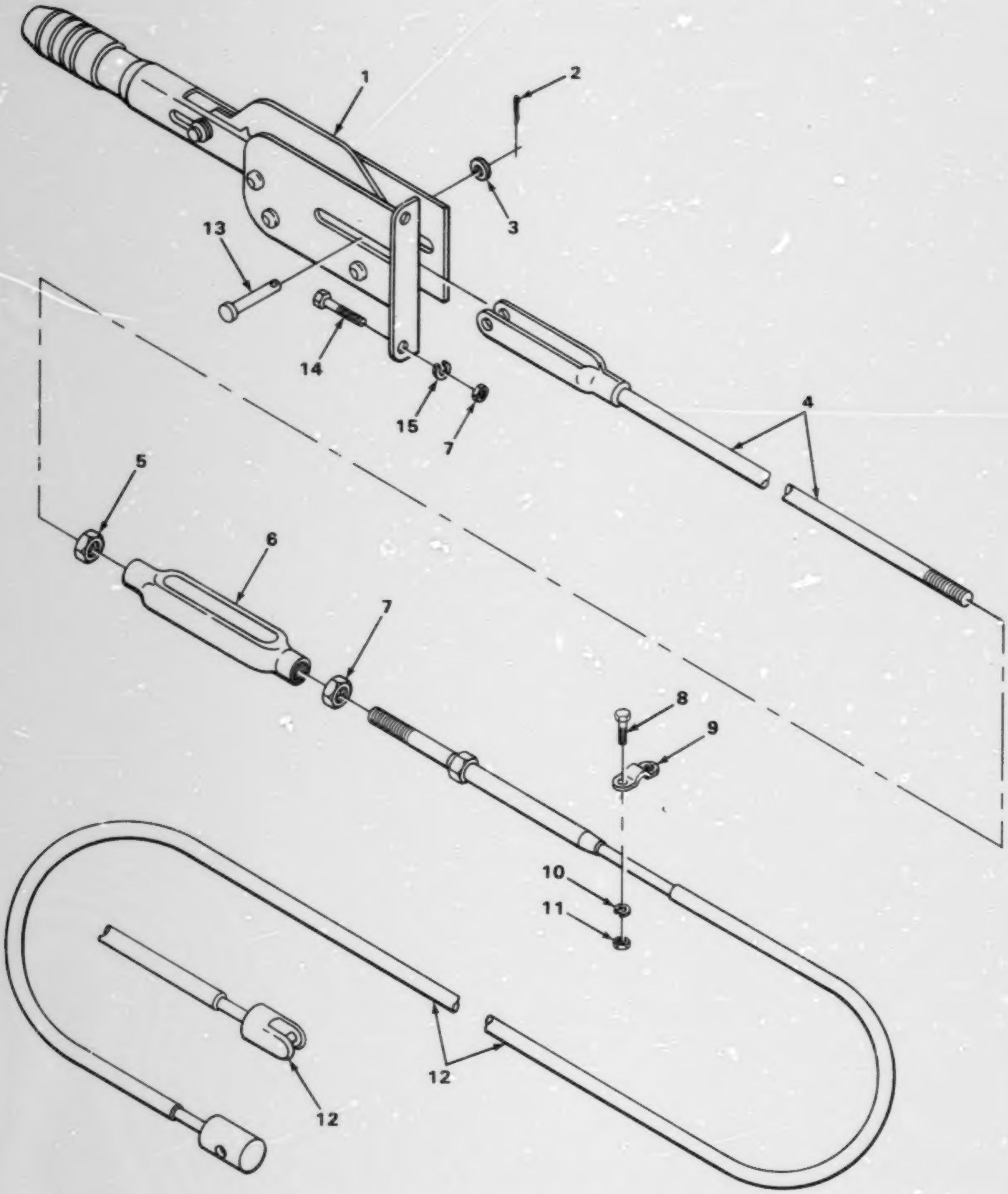
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FIGURE 7. HANDBRAKE CABLES.

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(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 12-BRAKES 1201-HAND BRAKES			
7	1	PAOZZ	2530-00-036-0297	19207	11652179	LEVER HANDBRAKE		EA	2
7	2	PAOZZ	5315-00-842-3044	96906	MS24665-283	PIN,COTTER		EA	2
7	3	PAOZZ	5310-00-081-4219	96906	MS27183-12	WASHER,FLAT		EA	2
7	4	XDOZZ		19207	8331944-1	ROD		EA	2
7	5	PFOZZ		96906	MS45905-56	NUT		EA	2
7	6	PAOZZ	5340-00-693-0739	19207	8331946	TURNBUCKLE BODY HAND BRAKE		EA	2
7	7	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT,PLAIN,HEXAGON		EA	4
7	8	PAOZZ	5306-00-225-9089	96906	MS90726-34	BOLT,MACHINE		EA	4
7	9	PAOZZ	2530-00-408-9177	19207	5303461	BRACKET		EA	2
7	10	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER,LOCK		EA	4
7	11	PAOZZ	5310-00-880-7746	96906	MS51968-5	NUT,PLAIN,HEXAGON		EA	4
7	12	PAOZZ	2530-00-441-0210	96906	MS53060-4	CONTROL ASSEMBLY,PU HAND BRAKE	698,699,701,702,707, 711,712 713,714,715	EA	2
7	12	PAOZZ	2530-00-696-2971	19207	8331941	CABLE AND CONDUIT A HAND BRAKE	704,706	EA	2
7	13	XDOZZ		19207	7415746-1	PIN,GROOVED,HEADED		EA	2
7	14	PAOZZ	5305-00-269-2803	96906	MS90726-60	SCREW,CAP,HEXAGON H		EA	2
7	15	PAOZZ	5310-01-130-9065	96906	MS35338-46	WASHER		EA	2

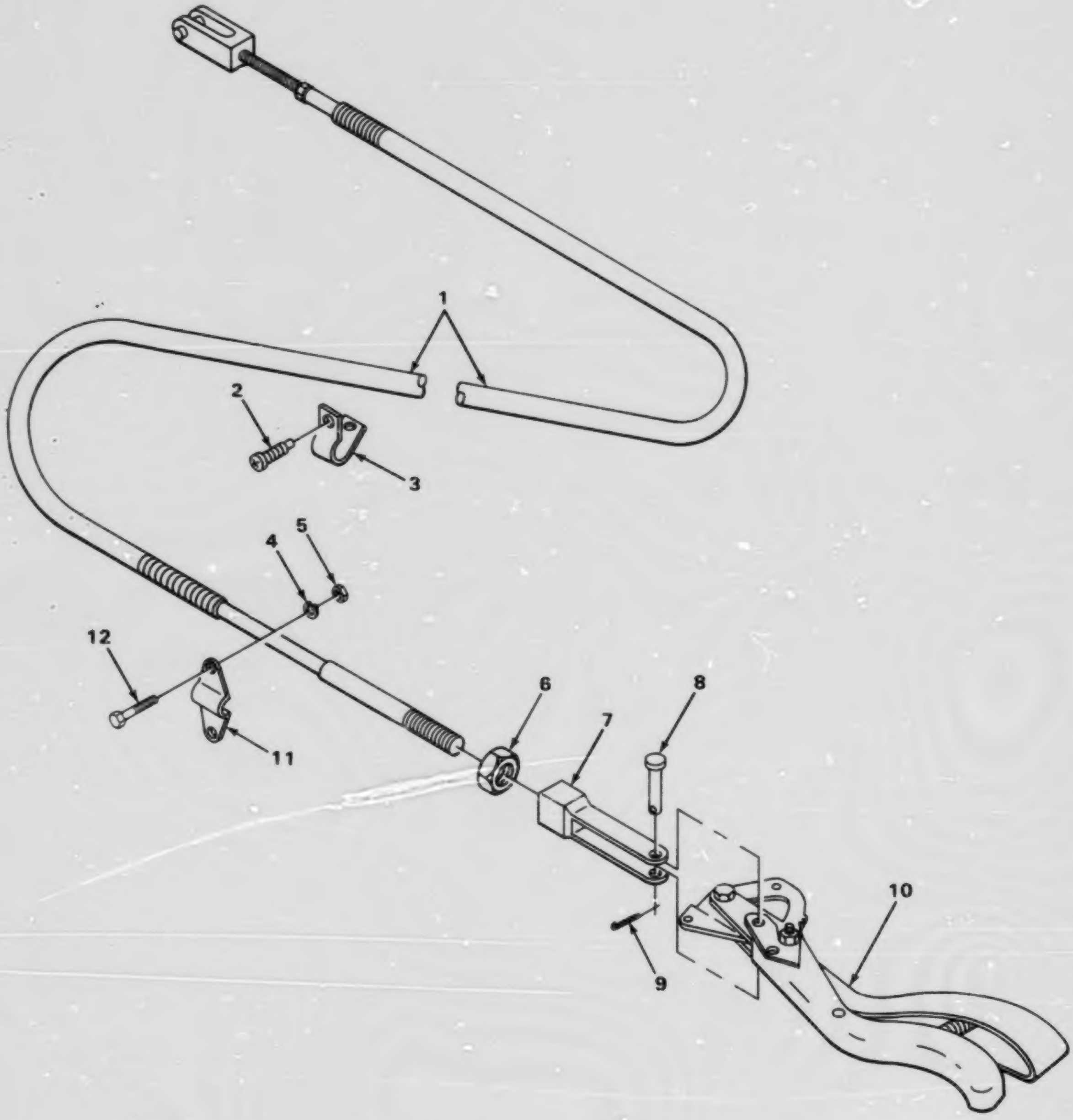
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FIGURE 8. HANDBRAKE ASSEMBLY (OPTIONAL FOR MODEL M107A1).

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(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.							
						1201(CONT)		
8	1	PAOZZ	2530-00-741-1007	23705	A298537	CABLE AND CONDUIT OPTIONAL FOR MODEL M107A1.........706	EA	2
8	2	PAOZZ	5305-00-044-1201	21450	441201	SCREW,TAPPING,THREA OPTIONAL FOR MODEL M107A1.......706	EA	2
8	3	XDOZZ		12204	120526	CLIP OPTIONAL FOR MODEL M107A1......................706	EA	2
8	4	PFOZZ	5310-00-407-9566	96906	MS35338-45	WASHER OPTIONAL FOR MODEL M107A1....................706	EA	4
8	5	XDOZZ		19207	12204	NUT OPTIONAL FOR MODEL M107A1.......................706	EA	4
8	6	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT,PLAIN,HEXAGON OPTIONAL FOR MODEL M107A1.........706	EA	2
8	7	PAOZZ	5340-00-741-1008	19207	7411008	CLEVIS,ROD END OPTIONAL FOR MODEL M107A1............706	EA	2
8	8	PAOZZ	5315-00-754-0848	96906	MS35810-3	PIN,STRAIGHT,HEADED CLEVIS,OPTIONAL FOR MODEL M107A1...706	EA	2
8	9	XDOZZ		19207	108629	COTTER PIN OPTIONAL FOR MODEL M107A1................706	EA	2
8	10	PFOZZ	2530-00-741-1011	23705	A298264	LEVER ASSY LEFT HAND OPTIONAL FOR MODEL M107A1......706	EA	1
8	10	PFOZZ	2530-00-741-1012	23705	A298265	LEVER ASSY RIGHT HAND OPTIONAL FOR MODEL M107A1.....706	EA	1
8	11	PAOZZ	2530-00-408-9177	19207	5303461	BRACKET OPTIONAL FOR MODEL M107A1...................706	EA	2
8	12	XDOZZ		19207	121661	BOLT OPTIONAL FOR MODEL M107A1......................706	EA	4

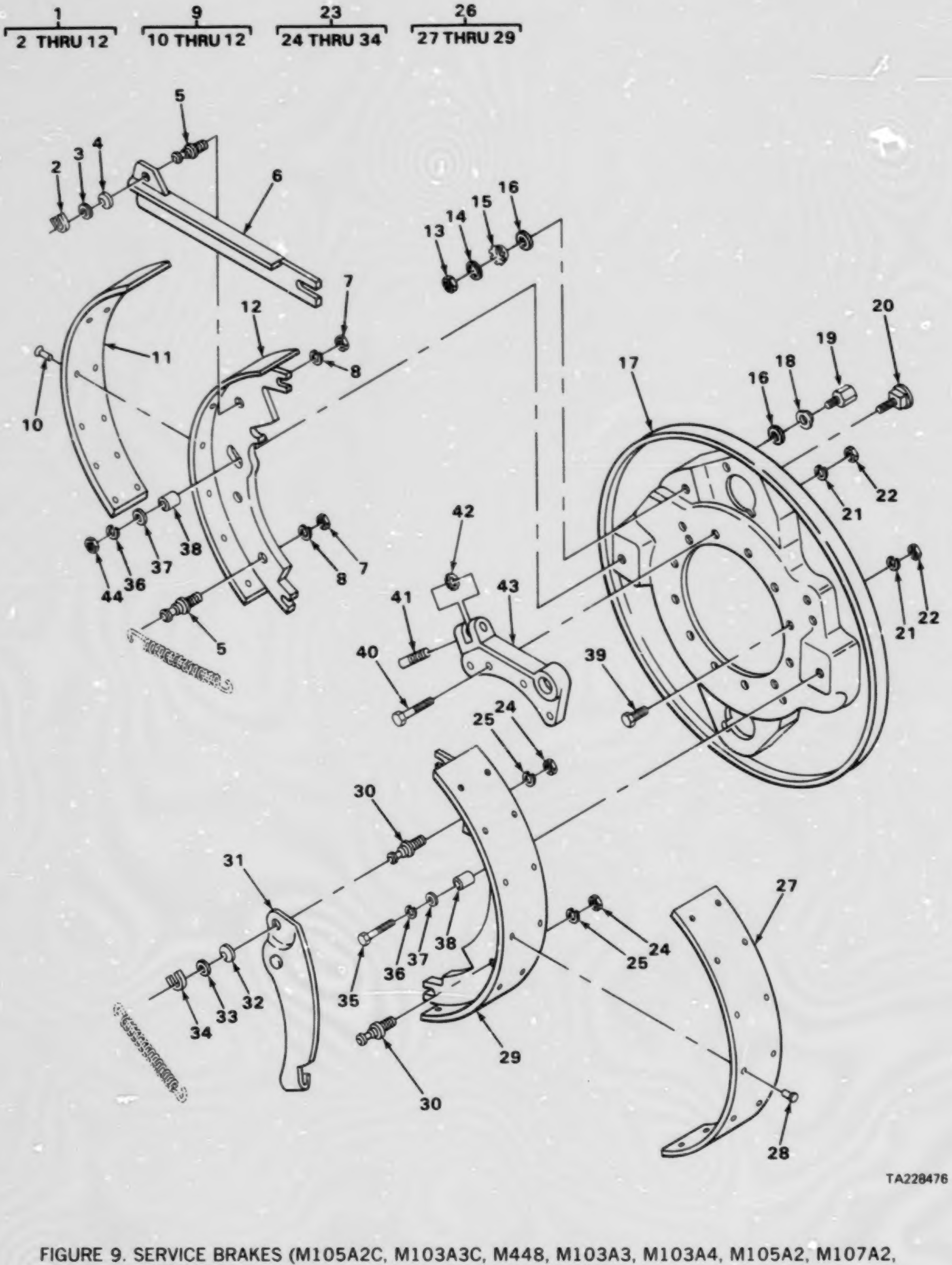
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FIGURE 9. SERVICE BRAKES (M105A2C, M103A3C, M448, M103A3, M103A4, M105A2, M107A2, M107A2C).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						1202-SERVICE BRAKES			
9	1	PAOFF	2530-00-774-9402	63477	FE17760	BRAKE SHOE INTERNAL FRONT RIGHT HAND COMPONENTS SAME AS P/N FE17759.EXCEPT WHERE INDIVIDUAL COMPONENTS ARE ANNOTATED	698.699.701.711.712.713.714.715	EA	1
9	1	PAOFF	2530-00-774-9401	63477	FE17759	BRAKE SHOE INTERNAL FRONT LEFT HAND....	698.699.701.711. 712,713,714,715	EA	1
9	2	PAOZZ	5310-00-322-7260	19207	8733937	.WASHER,SLOTTED..........	698,699,701,711,712,713,714,715	EA	1
9	3	PAOZZ	5310-00-314-0765	19207	8733936	.WASHER,FLAT.............	698,699,701,711,712,713,714,715	EA	1
9	4	PAOZZ	5310-00-314-0764	19207	8733935	.WASHER,SPRING TENSI.....	698,699,701,711,712,713,714,715	EA	1
9	5	PAOZZ	2530-00-322-7261	63477	F17758	.PIN,SERVICE BRAKE.......	698,699,701,711,712,713,714,715	EA	2
9	6	PAOZZ	3040-00-150-7127	19207	8733926	.CONNECTING LINK RIG LEFT HAND USE WITH P/N FE17759.................	698,699,701,711,712,713,714,715	EA	1
9	6	PAOZZ	2530-00-074-2357	63477	FD17762	.LINK,RIGHT HAND.........	698,699,701,711,712,713,714,715	EA	1
9	7	PAOZZ	5310-00-903-3993	96906	MS51970-4	.NUT PLAIN HEXAGON.......	698,699,701,711,712,713,714,715	EA	2
9	8	PFOZZ		96906	MS35335-26	.WASHER,LOCK............	698,699,701,711,712,713,714,715	EA	2
9	9	PAOFF	2530-00-693-1007	63477	F19223	.BRAKE SHOE..............	698,699,701,711,712,713,714,715	EA	1
9	10	PAFZZ	5320-00-058-9885	96906	MS16536-176	..RIVET,TUBULAR BRAKE SHOE LINING..	698,699,701,711,712, ...713,714,715	EA	14
9	11	PAFZZ	2530-00-522-4183	19207	8720517	..LINING,FRICTION BRAKE SHOE...	698,699,701,711,712,713, ...714,715	EA	1
9	12	XDFZZ		19207	7064979	..SHOE..................	698,699,701,711,712,713,714,715	EA	1
9	13	PAOZZ	5310-00-853-9335	96906	MS35691-13	NUT,PLAIN,HEXAGON........	698,699,701,711,712,713,714,715	EA	4
9	14	PAOZZ	5310-00-167-0721	96906	MS35333-41	WASHER,LOCK..............	698,699,701,711,712,713,714,715	EA	4
9	15	PAOZZ	2530-00-741-2104	63477	FC14257	PINION,BRAKE SHOE A......	698,699,701,711,712,713,714,715	EA	4
9	16	PAOZZ	5310-00-741-2120	19207	7412120	WASHER,FLAT..............	698,699,701,711,712,713,714,715	EA	8
9	17	PAOZZ	2530-01-083-5641	19207	8733933	PLATE,BACKING,BRAKE RIGHT HAND.....	698,699,701,711,712, ...713,714,715	EA	1
9	17	PAOZZ	2530-00-133-9831	19207	8733932	PLATE BACKING,BRAKE LEFT HAND..	698,699,701,711,712,713, ...714,715	EA	1
9	18	PAOZZ	5310-00-475-1299	63477	FC22218	WASHER,SPRING TENSI.....	698,699,701,711,712,713,714,715	EA	4
9	19	PAOZZ	5306-00-523-7535	19207	8328033	BOLT,SHOULDER............	698,699,701,711,712,713,714,715	EA	4
9	20	PAOZZ	5306-00-741-1760	19207	7411760	BOLT,SQUARE NECK INTERNAL BRAKE MECHANISM..	698,699,701, ...711,712,713,714,715	EA	2
9	21	PAOZZ	5310-00-627-6128	96906	MS35335-35	WASHER,LOCK..............	698,699,701,711,712,713,714,715	EA	24

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1202(CONT)		
9	22	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT,PLAIN,HEXAGON........698,699,701,711,712,713,714,715	EA	24
9	23	PAOFF	2530-00-798-4850	63477	FE17749	BRAKE SHOE ASSEMBLY RIGHT HAND COMPONENTS SAME AS P/N FE1774,EXCEPT WHERE INDIVIDUAL COMPONENTS ARE ANNOTATED...............698,699,701,711,712,713,714,715	EA	1
9	23	XDOFF		63477	FE1774	BRAKE SHOE INTERNAL LEFT HAND..698,699,701,711,712,713, ...714,715	EA	1
9	24	PAOZZ	5310-00-903-3993	96906	MS51970-4	.NUT,PLAIN,HEXAGON.......698,699,701,711,712,713,714,715	EA	2
9	25	PAOZZ	5310-00-550-3503	96906	MS35335-36	.WASHER,LOCK.............698,699,701,711,712,713,714,715	EA	2
9	26	PAOFF	2530-00-693-1007	63477	F19223	.BRAKE SHOE..............698,699,701,711,712,713,714,715	EA	1
9	27	PAFZZ	2530-00-522-4183	19207	8720517	..LINING,FRICTION BRAKE SHOE...698,699,701,711,712,713, ...714,715	EA	1
9	28	PAFZZ	5320-00-058-9885	96906	MS16536-176	..RIVET,TUBULAR BRAKE SHOE LINING..698,699,701,711,712, ...713,714,715	EA	14
9	29	XDFZZ		19207	7064979	..SHOE...................698,699,701,711,712,713,714,715	EA	1
9	30	PAOZZ	2530-00-322-7261	63477	F17758	.PIN,SERVICE BRAKE.......698,699,701,711,712,713,714,715	EA	2
9	31	PAOZZ	2530-00-973-2356	63477	F17751	.LEVER,RIGHT HAND BR.....698,699,701,711,712,713,714,715	EA	1
9	31	PAOZZ	2530-00-973-2355	02686	123917	.LEVER,LEFT HAND BRA.....698,699,701,711,712,713,714,715	EA	1
9	32	PAOZZ	5310-00-314-0764	19207	8733935	.WASHER,SPRING TENSI BRAKE SHOE, LINK, AND LEVER ASSEMBLIES.............698,699,701,711,712,713,714,715	EA	1
9	33	PAOZZ	5310-00-314-0765	19207	8733936	.WASHER,FLAT BRAKE LINK....698,699,701,711,712,713,714, ...715	EA	1
9	34	PAOZZ	5310-00-322-7260	19207	8733937	.WASHER,SLOTTED SERVICE BRAKE PIN..698,699,701,711,712, ...713,714,715	EA	1
9	35	PAOZZ	5305-00-267-8974	96906	MS90726-8	SCREW,CAP,HEXAGON H......698,699,701,711,712,713,714,715	EA	2
9	36	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK..............698,699,701,711,712,713,714,715	EA	4
9	37	PAOZZ	5310-00-641-9939	63477	F6783	WASHER,FLAT..............698,699,701,711,712,713,714,715	EA	4
9	38	PAOZZ	5365-00-741-2103	19207	7412103	SLEEVE SPACER............698,699,701,711,712,713,714,715	EA	2
9	39	PAOZZ	5305-00-269-2807	96906	MS90726-64	SCREW,CAP,HEXAGON H......698,699,701,711,712,713,714,715	EA	8
9	40	PAOZZ	5305-00-269-3233	96906	MS90727-57	BOLT.....................698,699,701,711,712,713,714,715	EA	16
9	41	PAOZZ	2530-00-770-9151	63477	FC22221	SCREW,BRAKE SHOE AD SERVICE BRAKES.....698,699,701,711, ...712,713,714,715	EA	2
9	41	PAOZZ	2530-00-770-9150	63477	FC22220	SCREW,BRAKE SHOE AD LEFT HAND..698,699,701,711,712,713, ...714,715	EA	2

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(1) ILLUS-TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
9	42	PAOZZ	2530-00-770-9149	63477	FC22219	WHEEL,SLACK ADJUSTE SERVICE BRAKE..698,699,701,711,712, ...713,714,715	EA	4
9	43	PAOZZ	2530-00-159-8755	19207	8733908	SUPPORT ASSY............698,699,701,711,712,713,714,715	EA	2
9	43	PAOZZ	2530-00-159-8756	19207	8733909	SUPPORT ASSY............698,699,701,711,712,713,714,715	EA	2
9	44	PAOZZ	5310-00-924-4218	96906	MS51970-1	NUT,PLAIN,HEXAGON........698,699,701,711,712,713,714,715	EA	2

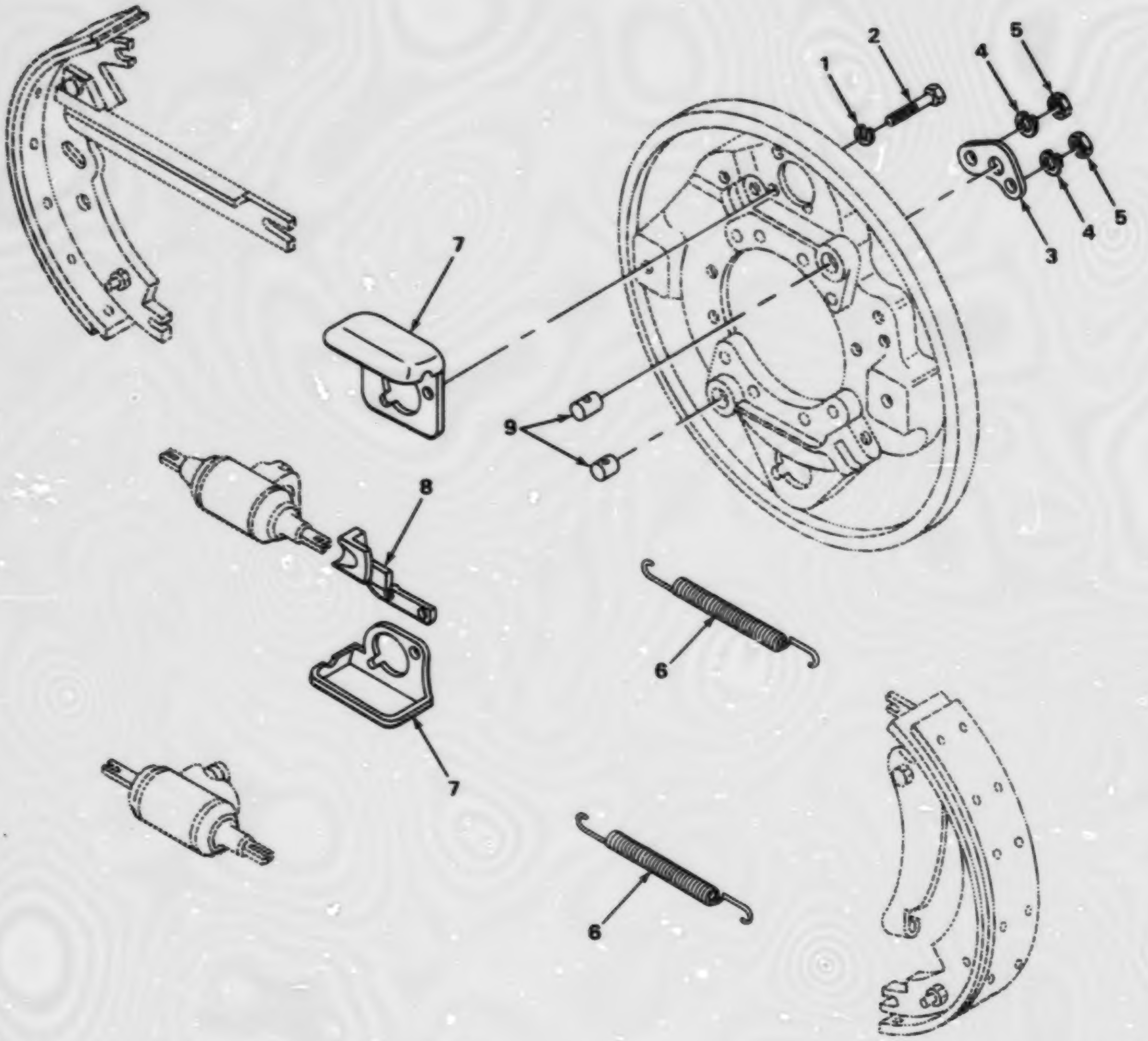

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FIGURE 10. BRAKE RELATED COMPONENTS (M105A2C, M103A3C, M448, M103A3, M103A4, M105A2, M107A2, M107A2C).

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(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.							
						1202(CONT)		
10	1	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER,LOCK..............698,699,701,711,712,713,714,715	EA	8
10	2	PAOZZ	5306-00-225-8496	96906	MS90725-31	BOLT,MACHINE.............698,699,701,711,712,713,714,715	EA	8
10	3	PAOZZ	2530-00-991-4342	63477	F19635	BRACKET,CABLE GUIDE LEFT HAND..698,699,701,711,712,713, ...714,715	EA	1
10	3	PAOZZ	2530-00-987-2565	63477	F19636	BRACKET,CABLE GUIDE RIGHT HAND.... 698,699,701,711,712, ...713,714,715	EA	1
10	4	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK..............698,699,701,711,712,713,714,715	EA	4
10	5	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT,PLAIN,HEXAGON........698,699,701,711,712,713,714,715	EA	4
10	6	PAOZZ	5360-00-699-9018	19207	8720515	SPRING,HELICAL,EXTE......698,699,701,711,712,713,714,715	EA	4
10	7	PAOZZ	2530-00-741-2068	19207	7412068	SHIELD BRAKE WHEEL LEFT HAND...698,699,701,711,712,713, ...714,715	EA	2
10	7	PAOZZ	2530-00-741-2050	63477	F9556	SHIELD BRAKE WHEEL RIGHT HAND..698,699,701,711,712,713, ...714,715	EA	2
10	8	PAOZZ	2530-00-522-1157	63477	F19581	RAMP,HAND BRAKE CAB LEFT HAND..698,699,701,711,712,713, ...714,715	EA	1
10	8	PAOZZ	2530-00-794-9763	63477	F19582	RAMP,BRAKE CABLE RIGHT HAND....698,699,701,711,712,713, ...714,715	EA	1
10	9	PAOZZ	5315-00-741-2106	63477	F12088	PIN,STRAIGHT HEADLE......698,699,701,711,712,713,714,715	EA	4

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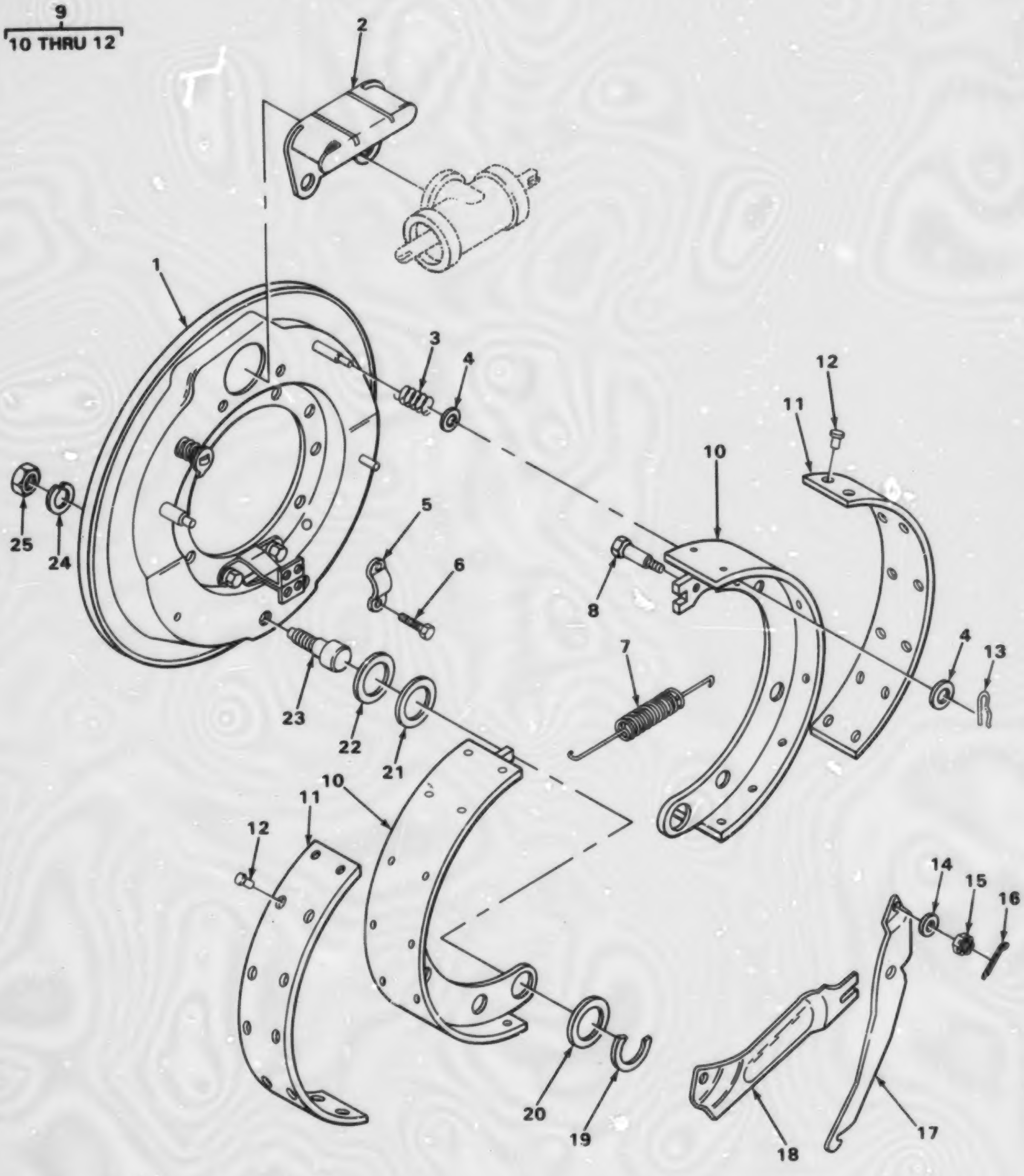
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FIGURE 11. SERVICE BRAKES (M103A1, M105A1, M107A1, M103A2).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1202(CONT)			
11	1	PAOZZ	2530-00-741-1014	23705	A298531	PLATE ASY REAR BACK BRAKE	702,704,706,707	EA	2
11	2	XDOZZ		19207	8238375	SHIELD	702,704,706,707	EA	2
11	3	PAOZZ	5360-00-706-1304	19207	7061304	SPRING,HELICAL,COMP BRAKE SHOE	702,704,706,707	EA	8
11	4	PAOZZ	5310-00-368-4954	23705	298506	WASHER,FLAT	702,704,706,707	EA	16
11	5	PAOZZ	5340-00-741-1006	19207	7411006	STRAP,RETAINING BRAKE CABLE	702,704,706,707	EA	2
11	6	PAOZZ	5306-00-012-0741	12204	120741	BOLT,MACHINE	702,704,706,707	EA	4
11	7	PAOZZ	5360-00-741-1017	19207	7411017	SPRING,HELICAL,EXTE BRAKE SHOE RETURN	702,704,706,707	EA	2
11	8	PAOZZ	5306-00-316-1023	23705	301638	BOLT,SHOULDER	702,704,706,707	EA	4
11	9	PAOFF	2530-00-752-1767	78500	A2-3722C3	BRAKE SHOE WITH LINING	702,704,705,707	EA	4
11	10	XDFZZ		19207	8357988	.SHOE	702,704,706,707	EA	1
11	11	PAFZZ	2530-00-391-1209	19207	8410185	.LINING,FRICTION	702,704,706,707	EA	1
11	12	XDFZZ		19207	589883	.RIVET,TUBULAR	702,704,706,707	EA	14
11	13	PAOZZ	5315-00-597-6079	19207	8344934	PIN,LOCK BRAKE SHOE	702,704,706,707	EA	8
11	14	PAOZZ	5310-00-080-6004	96906	MS27183-14	WASHER,FLAT	702,704,706,707	EA	2
11	15	PAOZZ	5310-00-842-1488	96906	MS35692-21	NUT,PLAIN,SLOTTED H	702,704,706,707	EA	2
11	16	PAOZZ	5315-00-842-3044	96906	MS24665-283	PIN,COTTER	702,704,706,707	EA	2
11	17	PAOZZ	5340-00-040-2690	23705	298498	LEVER BRAKE SHOE, LEFT	702,704,706,707	EA	1
11	17	PAOZZ	5340-00-040-2691	23705	298499	LEVER BRAKE SHOE, RIGHT	702,704,706,707	EA	1
11	18	PAOZZ	2530-00-040-2692	23705	298516	STRUT,HYDRAULIC BRA SHOE,LEFT	702,704,706,707	EA	1
11	18	PAOZZ	2530-00-040-2693	23705	298517	STRUT BRAKE SHOE, RIGHT	702,704,706,707	EA	1
11	19	PAOZZ	5310-00-516-0337	19207	5160337	WASHER,SLOTTED	702,704,706,707	EA	4
11	20	PAOZZ	5310-00-752-1711	19207	7521711	WASHER,FLAT	702,704,706,707	EA	4
11	21	PAOZZ	5310-00-269-6751	19207	5160345	WASHER,RECESSED ANCHOR PIN	702,704,706,707	EA	4
11	22	PAOZZ	8305-00-823-7340	81348	CF206	FELT SH 1/4 BOWL MR	702,704,706,707	EA	4
11	23	XDOZZ		19207	5160341	PIN,ANCHOR,BRAKE SH	702,704,706,707	EA	4
11	24	PAOZZ	5310-00-584-7888	96906	MS35338-51	WASHER,LOCK	702,704,706,707	EA	4
11	25	PAOZZ	5310-00-265-9237	96906	MS35690-1224	NUT,PLAIN HEXAGON	702,704,706,707	EA	4

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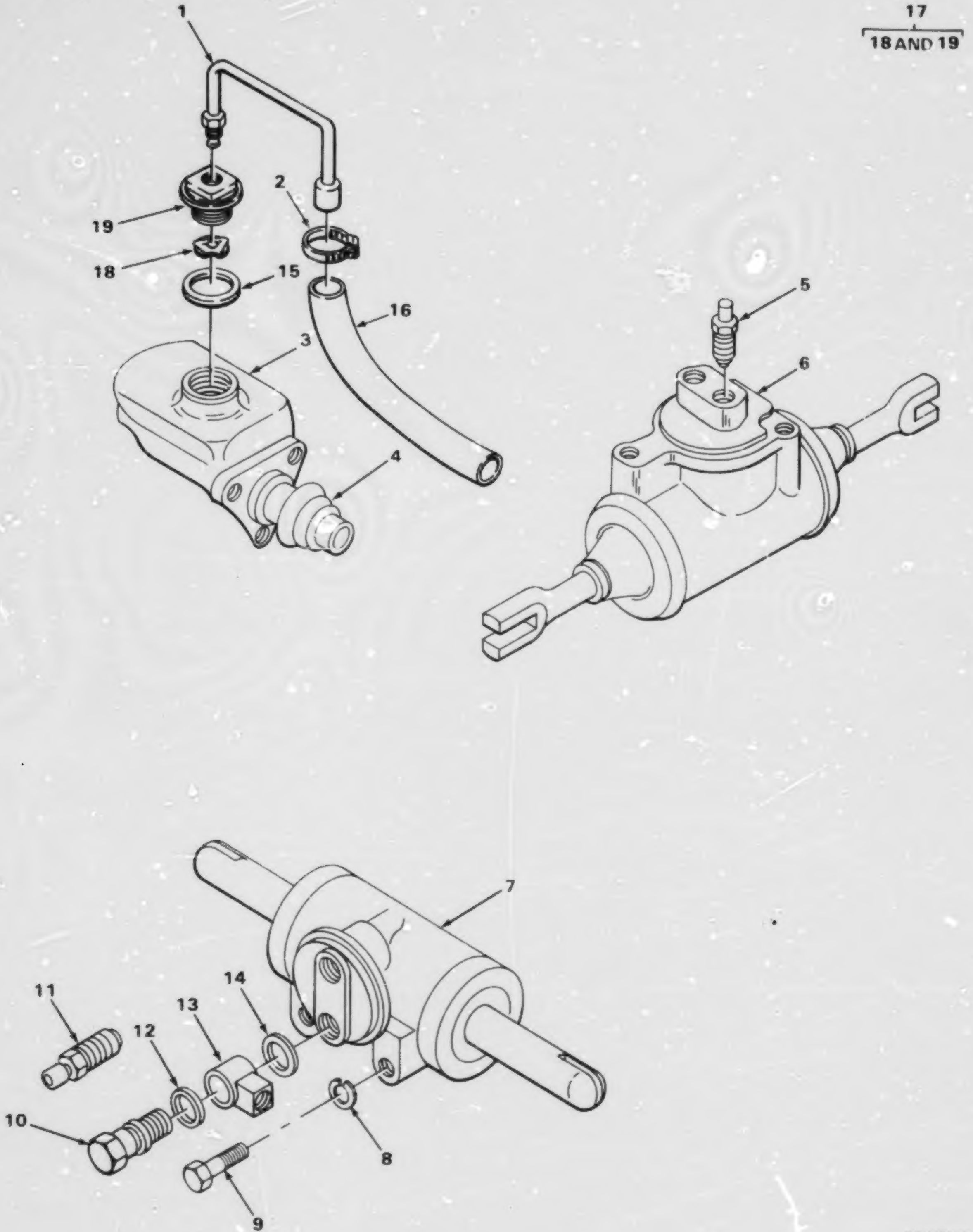
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FIGURE 12. HYDRAULIC MASTER CYLINDER AND WHEEL CYLINDER.

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1204-HYDRAULIC BRAKE SYSTEM			
12	1	PFOZZ	4730-00-511-1692	23705	A298322	TUBE ASSEMBLY,VENT		EA	1
12	2	PFOZZ	4730-00-908-3195	96906	MS35842-1	CLAMP,HOSE		EA	1
12	3	PAOZZ	2530-00-204-4800	63477	FE14240	CYLINDER ASSEMBLY,H BRAKE	701,702,704,706,707,711,712,713,714,715	EA	1
12	4	XDOZZ		63477	FD14048	BOOT,MASTER CYLINDER	701,702,704,706,707,711,712,713,714,715	EA	1
12	5	PAOZZ	2530-00-737-3260	19207	7373260	BLEEDER,VALVE	698,699,701,711,712,713,714,715	EA	4
12	6	XDOZZ		63477	FS6114	CYLINDER ASSEMBLY H WHEELBRAKE	698,699,701,711,712,713,714,715	EA	4
12	7	XDOZZ		19207	7348976	CYLINDER ASSEMBLY,H BRAKE	702,704,706,707	EA	1
12	8	PAOZZ	5310-00-261-7340	96906	MS35338-8	WASHER,LOCK	702,704,706,707	EA	4
12	9	PAOZZ	5305-01-010-2362	96906	MS18154-59	SCREW,CAP,HEXAGON,H	702,704,706,707	EA	4
12	10	XDOZZ		06848	317888	BOLT,FLUID PASSEAGE	702,704,706,707	EA	2
12	11	PAOZZ	2530-00-737-3260	19207	7373260	BLEEDER VALVE,HYDRA WHEEL CYLINDER ASSEMBLY	702,704,706,707	EA	1
12	12	PAOZZ	5310-00-209-1761	19207	5160323	WASHER,FLAT WHEEL CYLINDER	702,704,706,707	EA	1
12	13	PAOZZ	4730-00-396-2962	63477	FC3354	CONNECTOR,MULTIPLE	702,704,706,707	EA	2
12	14	PAOZZ	5310-00-275-6635	19207	5214539	WASHER,FLAT WHEEL CYLINDER	702,706,706,707	EA	2
12	15	XDOZZ		19207	7979692	GASKET		EA	1
12	16	PAOZZ	4720-00-809-2750	96906	MS521301A204120	HOSE,RUBBER		EA	1
12	17	PAOOO	4730-00-773-2163	63477	7979691	FILLER CAP ASSEMBLY		EA	1
12	18	XDOZZ		19207	7979689	.BAFFLE		EA	1
12	19	PAOZZ	4730-00-065-0718	19207	7979690	.CAP FILLER HYDRAULI		EA	1

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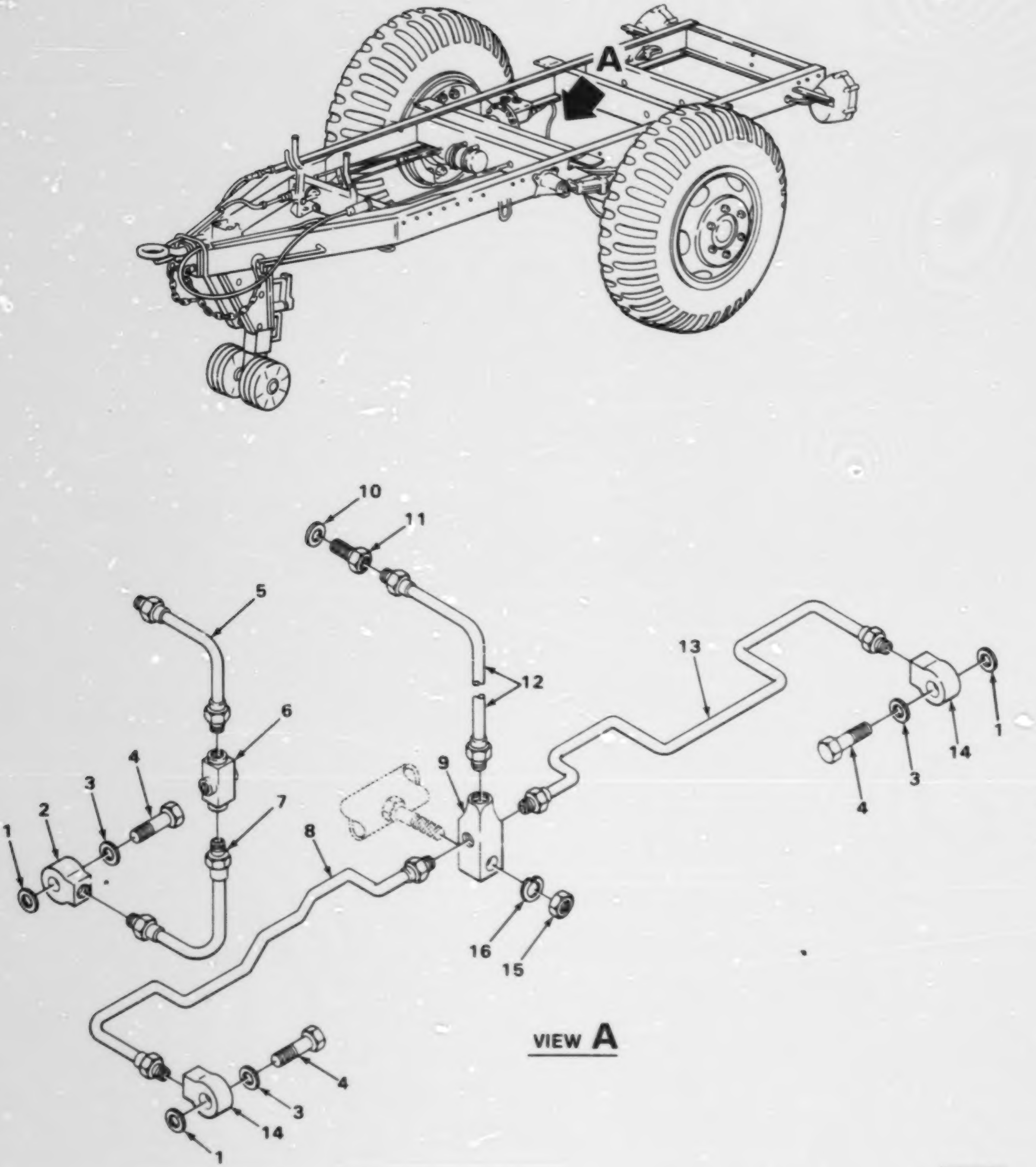
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FIGURE 13. HYDRAULIC LINES, HOSES, AND FITTINGS (M448, M103A1, M105A1, M107A1, M103A2, M103A3, M103A4, M105A2, M107A2, M107A2C).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						1204(CONT)		
13	1	PAOZZ	5310-00-741-2088	19207	7412088	WASHER,SHOULDERED A REAR AXLE FITTING,HYDRAULIC 701,702,704,706,707,711,712,713,714,715	EA	4
13	2	XDOZZ		19207	8332586	CONNECTOR,MULTIPLE BRAKE LINE 701,702,704,706,707,711,712,713,714,715	EA	2
13	3	PAOZZ	5365-00-274-4544	19207	5298653	SPACER RING BRAKE FITTING 701,702,704,706,707,711,712,713,714,715	EA	4
13	4	PAOZZ	4730-00-729-6437	63477	7412079	BOLT,FLUID PRESSURE 701,702,704,706,707,711,712,713,714,715	EA	4
13	5	PAOZZ	4710-00-566-7134	19207	8733922	TUBE ASSEMBLY,METAL LEFT UPPER 701,702,704,706,707,711,712,713,714,715	EA	1
13	5	PAOZZ	4710-00-630-9928	19207	8733918	TUBE ASSEMBLY,METAL RIGHT UPPER 701,702,704,706,707,711,712,713,714,715	EA	1
13	6	PAOZZ	4730-00-741-1903	63477	FC13927E	CONNECTOR MULTIPLE BRAKE CYLINDER,HYDRAULIC 701,702,704,706,707,711,712,713,714,715	EA	1
13	7	PAOZZ	4710-00-741-1907	63477	FD13351	TUBE ASSEMBLY,METAL RIGHT,LOWER 701,702,704,706,707,711,712,713,714,715	EA	1
13	7	PAOZZ	4710-00-566-7133	19207	8733920	TUBE ASSEMBLY,METAL 701,702,704,706,707,711,712,713,714,715	EA	1
13	8	PAOZZ	4710-00-200-0284	81349	MILT3520	TUBE ASSEMBLY LEFT HAND 702,704,706,707	EA	1
13	8	XDOZZ		80212	7411076	TUBE ASSEMBLY,METAL 701,711,712,713,714,715	EA	1
13	9	PAOZZ	4730-00-463-1588	79470	5167679	CONNECTOR,MULTIPLE, HYDRAULIC LINE 701,702,704,706,707,711,712,713,714,715	EA	1
13	10	PAOZZ	5330-00-930-5292	19207	5156636	GASKET REDUCER 701,702,704,706,707,711,712,713,714,715	EA	1
13	11	PAOZZ	4730-00-289-4937	79470	8365390	REDUCER,TUBE HYDRAULIC LINE 701,702,704,706,707,711,713,714,715	EA	1
13	12	PAOZZ	4720-00-203-9658	19207	7411023	HOSE ASSEMBLY,NONME 701,702,704,706,707,711,712,713,714,715	EA	1
13	13	XDOZZ		19207	7973930	TUBE ASSEMBLY RIGHT HAND 702,704,706,707	EA	1
13	13	PAOZZ	2530-00-741-1077	19207	7411077	TUBE ASSEMBLY RIGHT HAND 701,711,712,713,714,715	EA	1
13	14	PAOZZ	4730-00-419-9425	19207	7745464	CONNECTOR,AIR BRAKE 701,702,704,706,707,711,712,713,714,715	EA	2
13	15	PAOZZ	5310-00-880-7745	96906	MS51968-11	NUT,PLAIN,HEXAGON 701,702,704,706,707,711,712,713,714,715	EA	1
13	16	PAOZZ	5310-00-209-0965	96906	MS35338-47	WASHER,LOCK 701,702,704,706,707,711,712,713,714,715	EA	1

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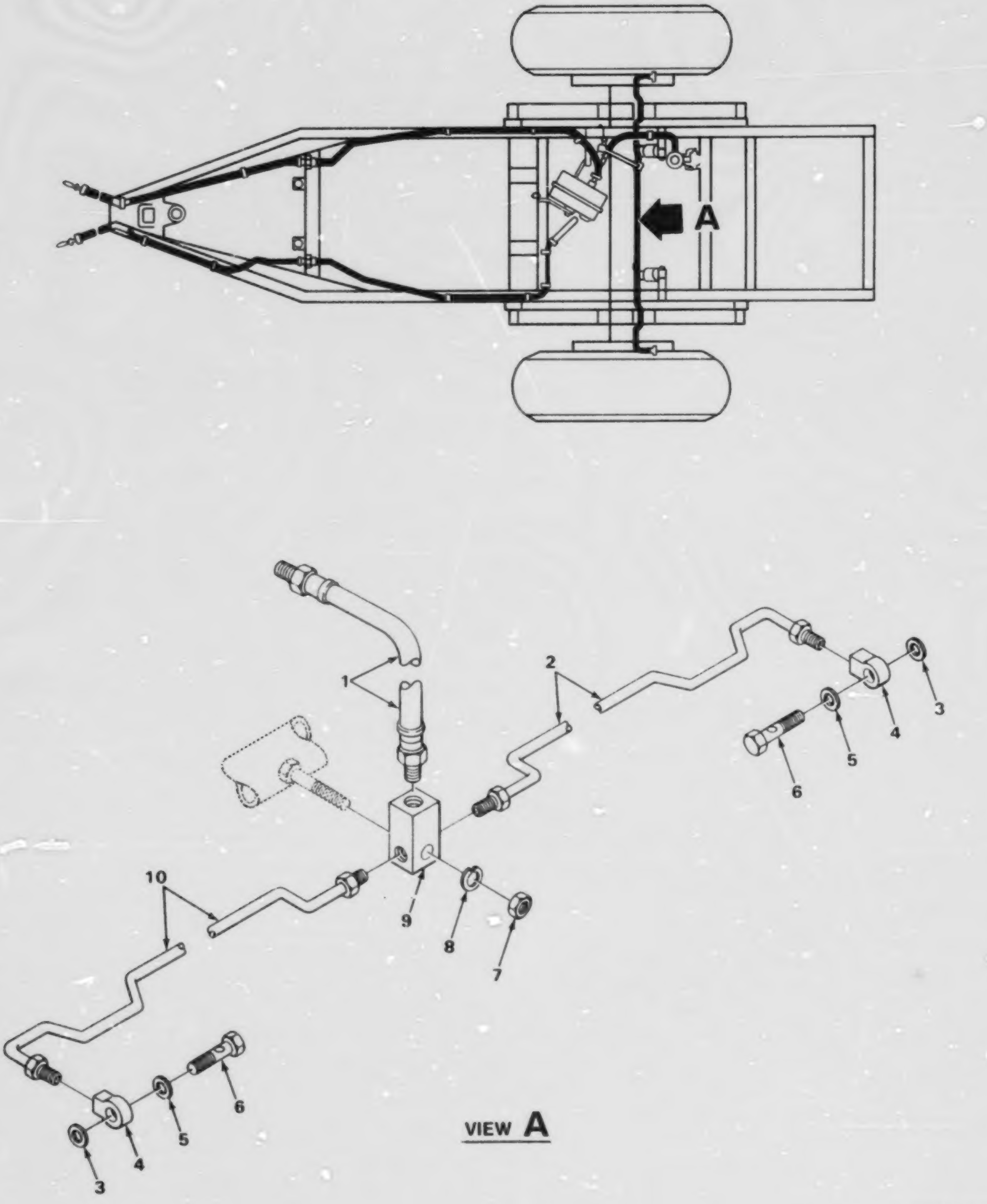
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FIGURE 14. VACUUM HYDRAULIC BRAKE SYSTEM HOSES, LINES AND FITTINGS (M105A2C, M103A3C).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1204(CONT)			
14	1	PAOZZ	4720-00-203-9658	19207	7411023	HOSE ASSEMBLY,NONME	698,699	EA	1
14	2	XDOZZ		19207	7973930	TUBE ASSEMBLY RIGHT HANDI	689,699	EA	1
14	3	PAOZZ	5365-00-274-4544	19207	5298653	SPACER,RING BRAKE FITTING	698,699	EA	2
14	4	PAOZZ	4730-00-419-9425	19207	7745464	CONNECTOR AIR BRAKE	698,699	EA	2
14	5	PAOZZ	5310-00-741-2088	19207	7412088	WASHER,REAR AXLE WHEEL,CYLINDER INLET,CONNECTOR	698. 699	EA	2
14	6	PAOZZ	4730-00-729-6437	63477	7412079	BOLT,FLUID PASSAGE	698,699	EA	2
14	7	PFOZZ	5310-00-880-7745	96906	MS51968-11	NUT,PLAIN,HEXAGON	698,699	EA	1
14	8	PFOZZ		96906	MS35337-28	WASHER,LOCK	698,699	EA	1
14	9	PAOZZ	4730-00-463-1588	79470	5167679	CONNECTOR,MULTIPLE	6[illegible]699	EA	1
14	10	PAOZZ	4710-00-200-0284	81349	MILT3520	TUBE ASSEMBLY LEFT HAND	[illegible]699	EA	1

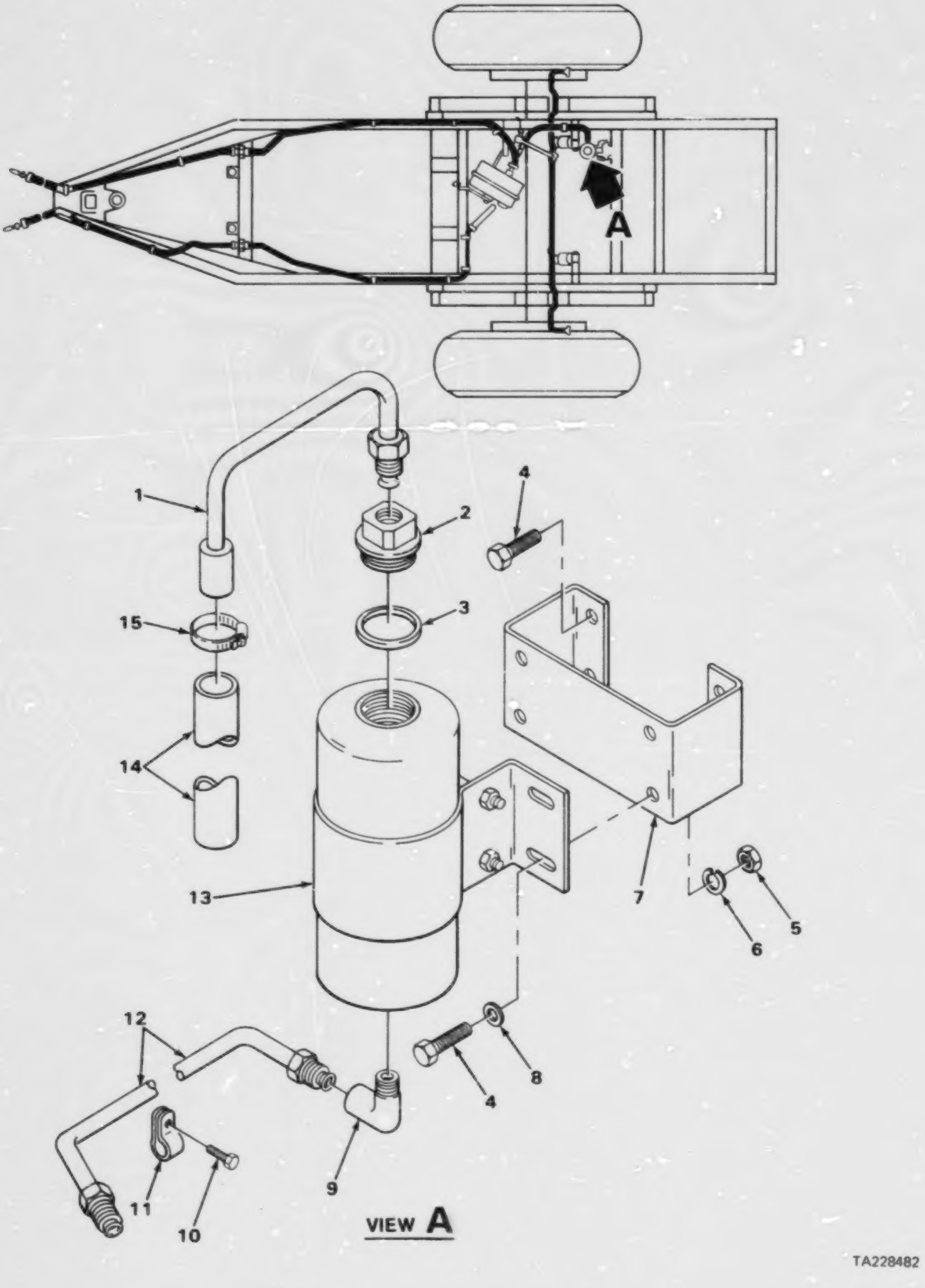
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FIGURE 15. VACUUM HYDRAULIC BRAKE SYSTEM TANK ASSEMBLY (M105A2C, M103A3C).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1204(CONT)			
15	1	PAOZZ	4710-00-511-1692	23705	A298322	TUBE ASSEMBLY,METAL	698.699	EA	1
15	2	PAOZZ	4730-00-773-2163	63477	7979691	FILLER CAP ASSY	698.699	EA	1
15	3	PAOZZ	5365-00-737-3354	19207	7373354	SPACER,RING	698.699	EA	1
15	4	PFOZZ	5305-00-068-0505	96906	MS90726-5	SCREW,CAP,HEXAGON H	698.699	EA	8
15	5	PFOZZ	5310-00-768-0319	96906	MS51968-2	NUT,PLAIN,HEXAGON	698.699	EA	8
15	6	PFOZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK	698.699	EA	8
15	7	XDOZZ		19207	8683593	BRACKET	698.699	EA	1
15	8	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER,FLAT	698.699	EA	4
15	9	PAOZZ	4730-00-277-8643	30379	143342	ELBOW,PIPE TO TUBE	698.699	EA	1
15	10	PFOZZ		96906	MS524641-49	SCREW	698.699	EA	1
15	11	PAOZZ	5340-00-057-2890	96906	MS21333-3	CLAMP,LOOP	698.699	EA	1
15	12	XDOZZ		19207	8683594	TUBE ASSEMBLY	698.699	EA	1
15	13	XDOZZ		19207	8764719	TANK	698.699	EA	1
15	14	PAOZZ	4720-00-809-2750	96906	MS521301A204120	HOSE,RUBBER	698.699	EA	1
15	15	PFOZZ		96906	MS35842-2	CLAMP	698.699	EA	1

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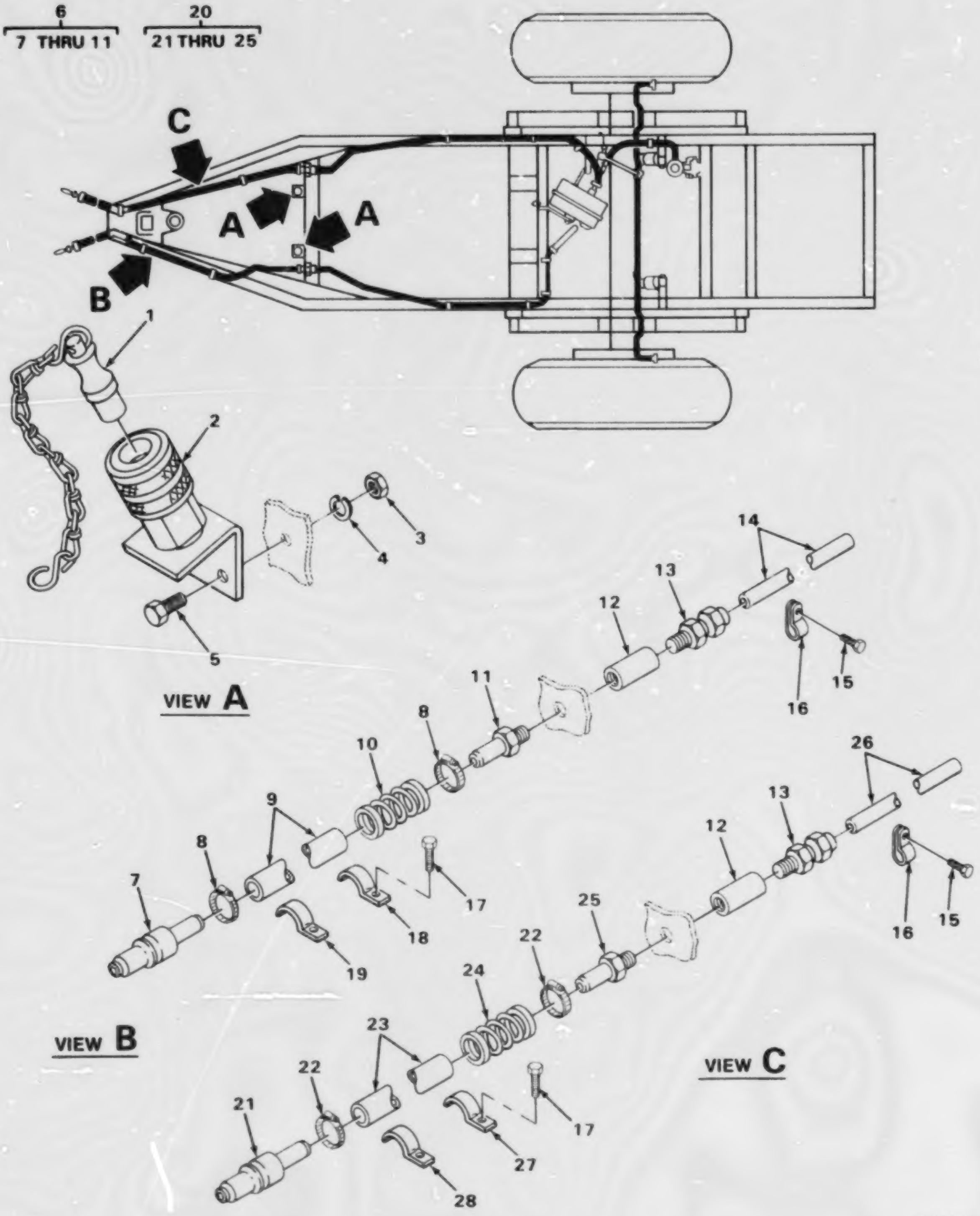
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FIGURE 16. VACUUM HYDRAULIC BRAKE SYSTEM HOSE ASSEMBLY (M105A2C, M103A3C).

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1205-VACUUM SYSTEM COMPONENTS		
16	1	XDOZZ		19207	8764697	PLUG AND CHAIN ASSY..........698,699	EA	2
16	2	PAOZZ	2530-00-930-8232	19207	8683600	COUPLING DUMMY VACU..........698,699	EA	2
16	3	PFOZZ	5310-00-880-7746	96906	MS51968-5	NUT,PLAIN,HEXAGON..........698,699	EA	4
16	4	PFOZZ	5310-00-407-9566	96906	MS35338-45	WASHER,LOCK..........698,699	EA	4
16	5	PFOZZ	5306-00-225-9086	96906	MS90726-31	BOLT,MACHINE..........698,699	EA	4
16	6	XDOOO		19207	8683604	HOSE ASSEMBLY..........698,699	EA	1
16	7	PAOZZ	4730-00-805-0677	40342	8764668	.COUPLING HALF,QUICK VACUUM-HYDRAULIC BRAKE SYSTEM..........698,699	EA	1
16	8	PAOZZ	4730-00-908-3194	96906	MS35842-11	.CLAMP,HOSE..........698,699	EA	2
16	9	XDOZZ		83397	8683602	.HOSE,NONMETALLIC VACUUM-HYDRAULIC BRAKE SYSTEM....698,..........699	EA	1
16	10	PAOZZ	5360-00-770-9156	19207	8683606	.SPRING,HELICAL,COMP..........698,699	EA	1
16	11	PAOZZ	4730-01-139-9798	19207	8764667	.ADAPTER,STRAIGHT,PI..........698,699	EA	1
16	12	PAOZZ	4730-00-511-1677	04741	217709	COUPLING,PIPE VACUUM-HYDRAULIC BRAKE SYSTEM....698,699	EA	2
16	13	PAOZZ	4730-00-142-3076	96906	MS39179-9	ADAPTER,STRAIGHT,PI..........698,699	EA	2
16	14	MOOZZ		19207	2775529-60	TUBE,COPPER MANUFACTURE FROM NSN 4710-00-277-5529..698,..........699	EA	1
16	15	PFOZZ		96906	MS24641-49	SCREW..........698,699	EA	7
16	16	PAOZZ	5340-00-177-4039	96906	MS21333-7	CLAMP,LOOP..........698,699	EA	7
16	17	PAOZZ	5305-00-052-6922	96906	MS24629-58	SCREW,TAPPING,THREA..........698,699	EA	7
16	18	PFOZZ		96906	MS35140-15	CLAMP..........698,699	EA	1
16	19	PFOZZ		96906	MS35140-13	CLAMP..........698,699	EA	1
16	20	XDOOO		19207	8683603	HOSE ASSEMBLY..........698,699	EA	1
16	21	PAOZZ	4730-00-805-0678	40342	8764670	.COUPLING HALF,QUICK..........698,699	EA	1
16	22	PAOZZ	4730-00-908-3194	96906	MS35842-11	.CLAMP,HOSE..........698,699	EA	2
16	23	PAOZZ	4720-00-805-0526	19207	8683601	.HOSE,NONMETALLIC FRONT AND REAR..........698,699	EA	1
16	24	PAOZZ	5360-00-771-6972	19207	8683605	.SPRING,HELICAL,COMP..........698,699	EA	1
16	25	PFOZZ	4730-00-735-0508	79470	7350508	.ADAPTER,STRAIGHT,PI PIPE TO HOSE,CHAMBER,REAR..698,699	EA	1
16	26	MOOZZ		19207	2775529-54	TUBE,COPPER MANUFACTURE FROM NSN 4710-00-277-5529..698,..........699	EA	1

(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.								
						1205(CONT)			
16	27	PFOZZ		96906	MS35140-11	STRAP,RETAINING	698,699	EA	1
16	28	PAOZZ	5340-00-282-7794	96906	MS35140-14	STRAP,RETAINING	698,699	EA	1

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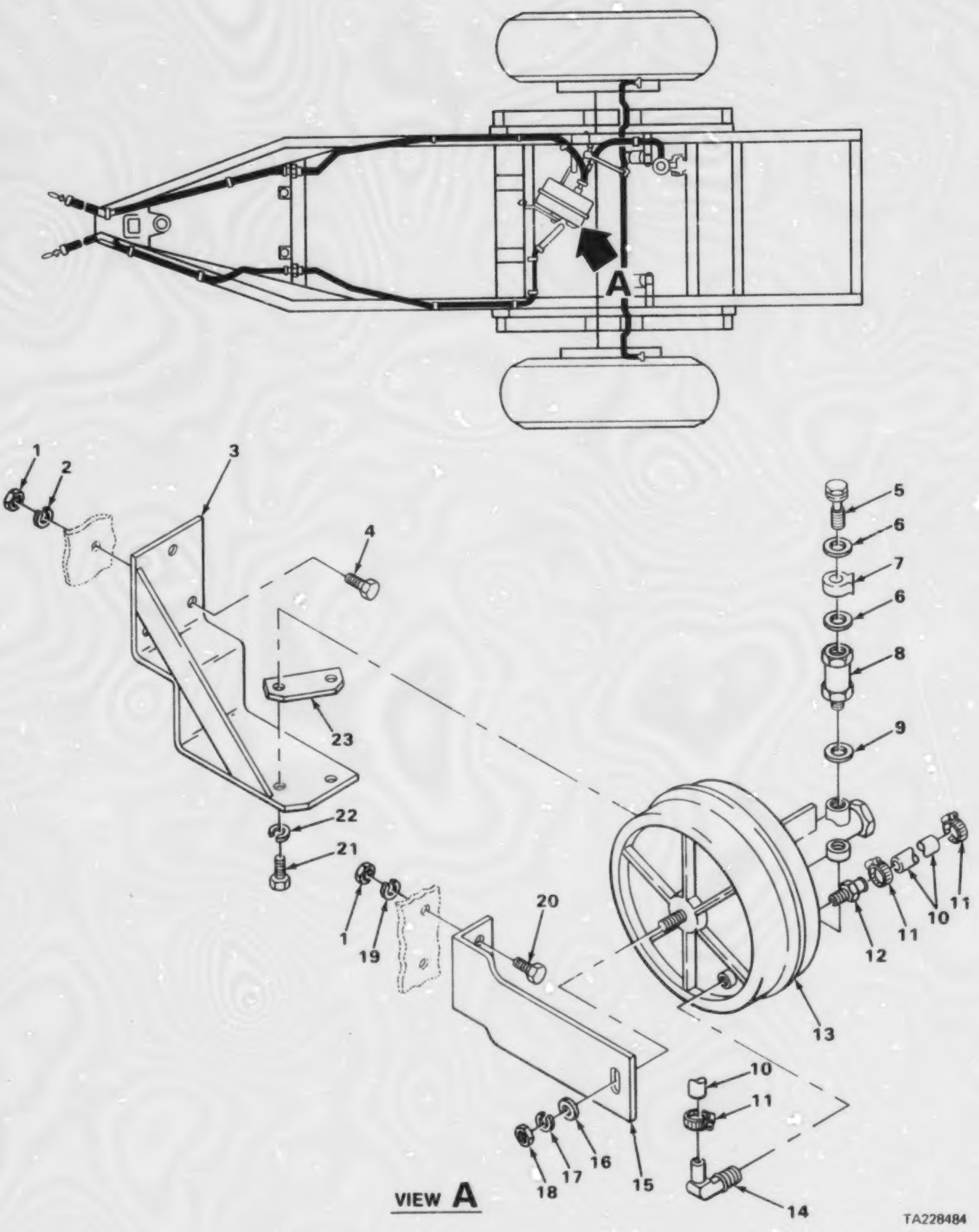
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FIGURE 17. VACUUM HYDRAULIC BRAKE SYSTEM MASTER CYLINDER (M105A2C, M103A3C).

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						1205(CONT)			
17	1	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT,PLAIN,HEXAGON	698,699	EA	5
17	2	PAOZZ	5310-00-543-5101	96906	MS35338-27	WASHER,LOCK	698,699	EA	3
17	3	PAOZZ	2530-00-177-9295	19207	8683595	BRACKET CYLINDER AS	698,699	EA	1
17	4	PFOZZ	5305-01-010-2362	96906	MS18154-59	SCREW,CAP,HEXAGON H	698,699	EA	3
17	5	PAOZZ	4730-00-516-7419	19207	5167419	BOLT,FLUID PASSAGE WHEEL CYLINDER	698,699	EA	2
17	6	PAOZZ	5310-00-209-1761	19207	5160323	WASHER,FLAT WHEEL CYLINDER	698,699	EA	4
17	7	PAOZZ	4730-00-278-5812	63477	FC4819	CONNECTOR,MULTIPLE, FLUID PRESSURE LINE	698,699	EA	2
17	8	PAOZZ	4820-00-770-9160	19207	8764692	VALVE,CHECK CONNECTOR,MULTIPLE	698,699	EA	1
17	9	PAOZZ	5310-00-275-6635	19207	5214539	WASHER,FLAT CONNECTOR, WHEEL CYLINDER	698,699	EA	1
17	10	XDOZZ		19207	8683607	HOSE,RUBBER	698,699	EA	2
17	11	PAOZZ	4730-00-908-3194	96906	MS35842-11	CLAMP,HOSE	698,699	EA	4
17	12	PFOZZ	4730-00-735-0508	79470	7350508	ADAPTER,STRAIGHT,PI PIPE TO HOSE,VACUUM-HYDRAULIC BRAKE SYSTEM	698,699	EA	1
17	13	PAOZZ	2530-00-772-5274	40342	C479	CYLINDER ASSEMBLY,V VACUUM-HYDRAULIC BRAKE	698,699	EA	1
17	14	XDOZZ		19207	8764672	ELBOW	698,699	EA	1
17	15	XDOZZ		19207	8764720	BRACE	698,699	EA	1
17	16	PFOZZ	5310-00-809-5998	96906	MS27183-18	WASHER,FLAT	698,699	EA	1
17	17	PFOZZ	5310-00-584-5272	96906	MS35338-48	WASHER,LOCK	698,699	EA	1
17	18	PFOZZ	5310-00-732-0560	96906	MS51968-14	NUT,PLAIN,HEXAGON	698,699	EA	1
17	19	PFOZZ	5310-01-130-9065	96906	MS35338-46	WASHER,LOCK	698,699	EA	2
17	20	PFOZZ		96906	MS35298-59	SCREW	698,699	EA	2
17	21	PFOZZ	5305-00-709-8516	96906	MS90727-86	SCREW,CAP,HEXAGON H	698,699	EA	2
17	22	PFOZZ		96906	MS35337-28	WASHER,LOCK	698,699	EA	2
17	23	XDOZZ		96906	8764705	SPACER	698,699	EA	1

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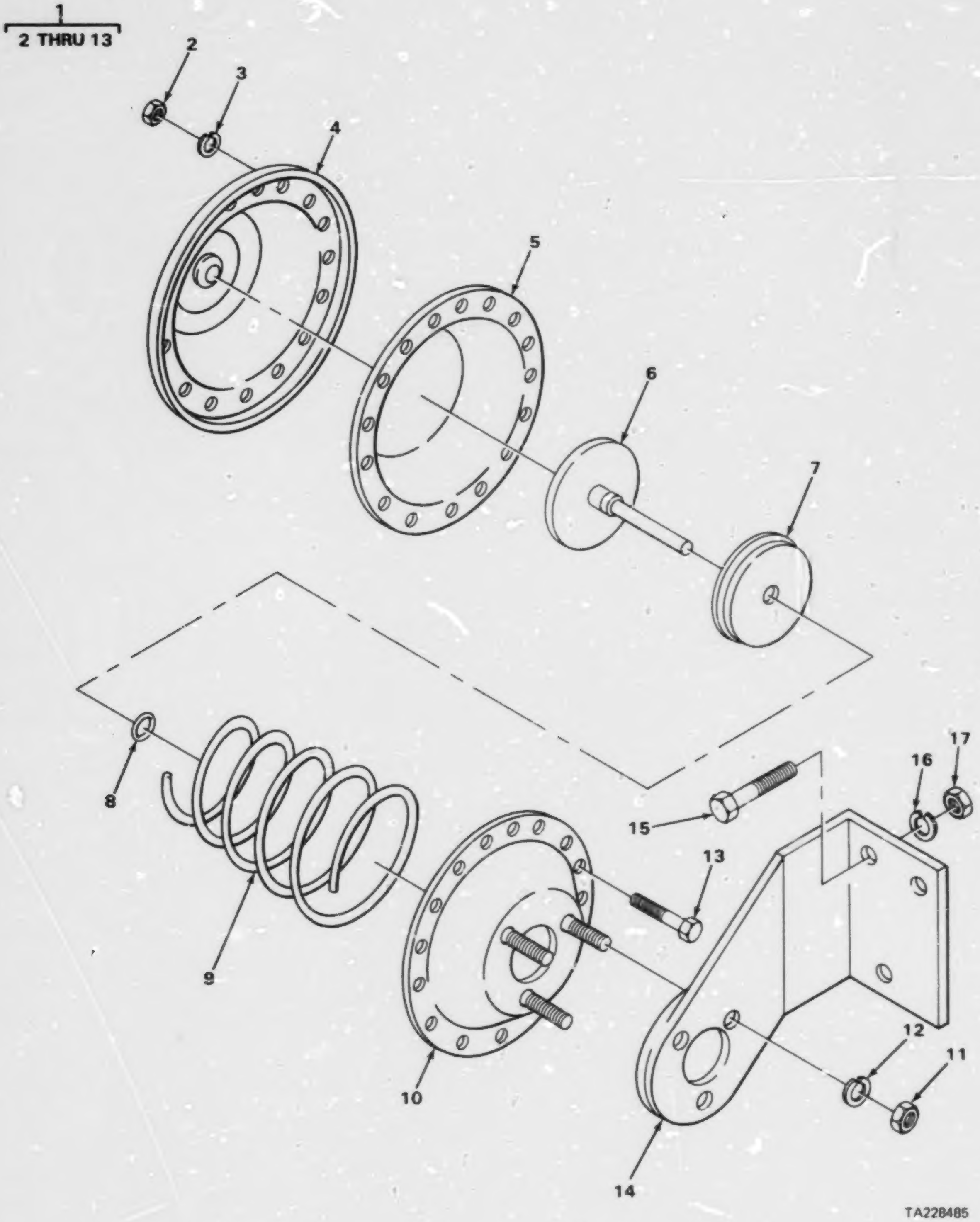
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FIGURE 18. AIR CHAMBER ASSEMBLY (M448, M103A1, M105A1, M107A1, M103A2, M103A3, M103A4, M105A2, M107A2, M107A2C).

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						1208-AIR BRAKE SYSTEM		
18	1	PAOFF	2530-00-293-5139	23075	A298320	CHAMBER,AIR BRAKE...701,702,704,706,707,711,712,713,714, ...715	EA	1
18	2	PFFZZ		96906	MS51968-4	.NUT............701,702,704,706,707,711,712,713,714,715	EA	16
18	3	PAFZZ	5310-00-407-9566	96906	MS35338-45	.WASHER,LOCK.....701,702,704,706,707,711,712,713,714,715	EA	16
18	4	PAFZZ	1095-01-141-4814	19207	7979602	.COVER ASSEMBLY.....701,702,704,706,707,711,712,713,714, ...715	EA	1
18	5	PAFZZ	1095-01-146-7686	19207	7979611	.DIAPHRAGM.......701,702,704,706,707,711,712,713,714,715	EA	1
18	6	PAFZZ	2530-00-192-8930	97554	7979599	.PUSH ROD,HYDRAULIC.....701,702,704,706,707,711,712,713, ...714,715	EA	1
18	7	PAFZZ	5340-00-178-1441	19207	7979610	.RETAINER HELICAL CO....701,702,704,706,707,711,712,713, ...714,715	EA	1
18	8	PFFZZ		96906	MS28775-12	.PACKING,PREFORMED..701,702,704,706,707,711,712,713,714, ...715	EA	1
18	9	PAFZZ	5360-00-700-4429	19207	7979608	.SPRING,HELICAL,COMP....701,702,704,706,707,711,712,713, ...714,715	EA	1
18	10	PAFZZ	2530-00-192-8928	97554	7979605	.CHAMBER ASSEMBLY,AI....701,702,704,706,707,711,712,713, ...714,715	EA	1
18	11	PFOZZ	5310-00-732-0558	96906	MS51967-8	.NUT............701,702,704,706,707,711,712,713,714,715	EA	3
18	12	PAOZZ	5310-01-130-9065	96906	MS35338-46	.WASHER,LOCK.....701,702,704,706,707,711,712,713,714,715	EA	3
18	13	PAFZZ	5306-00-225-9088	96906	MS90726-33	.BOLT,MACHINE AIR CHAMBER ASSEMBLY.....701,702,704,706, ...707,711,712,713,714,715	EA	16
18	14	XDOZZ		19207	8357982	BRACKET..........701,702,704,706,707,711,712,713,714,715	EA	1
18	15	PAOZZ	5305-00-269-2803	96906	MS90726-60	SCREW,CAP,HEXAGON H.....701,702,704,706,707,711,712,713, ...714,715	EA	3
18	16	PAOZZ	5310-01-130-9065	96906	MS35338-46	WASHER,LOCK......701,702,704,706,707,711,712,713,714,715	EA	3
18	17	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT.............701,702,704,706,707,711,712,713,714,715	EA	3

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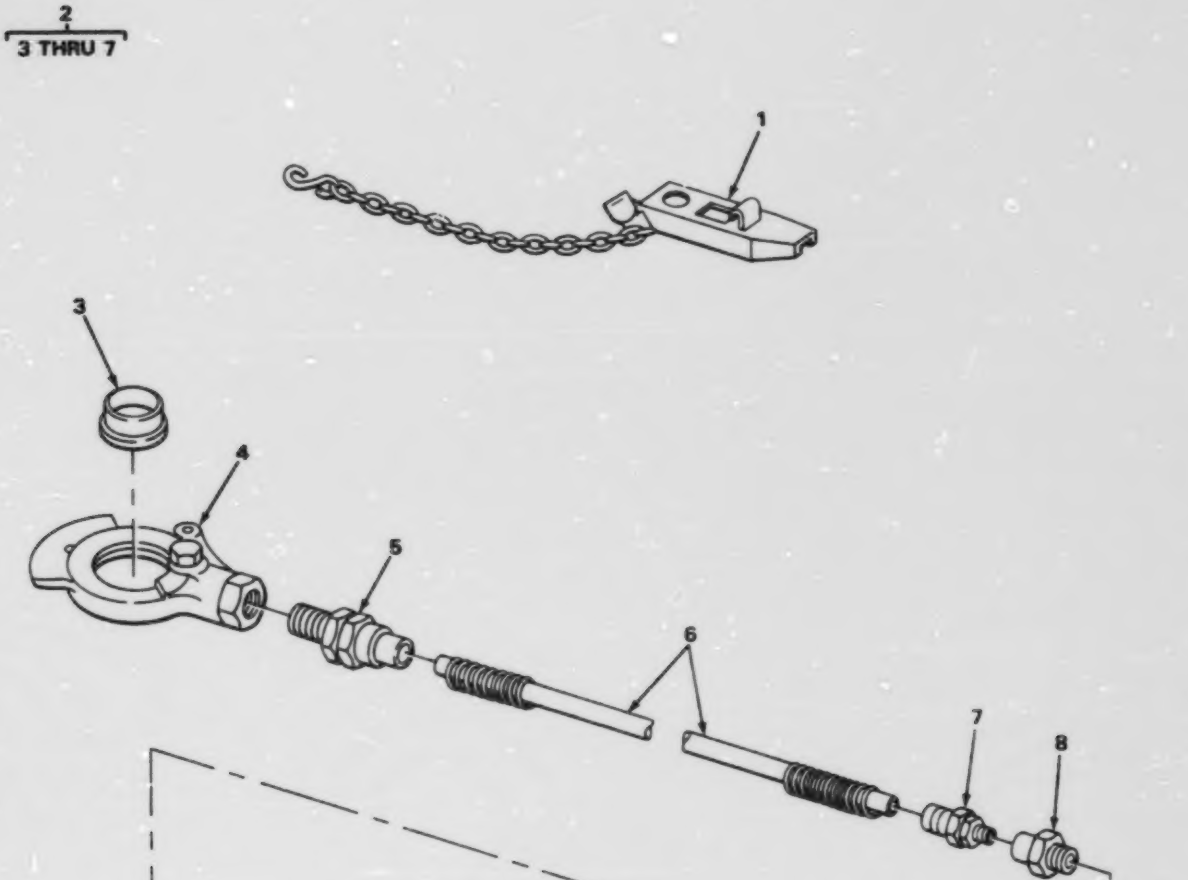
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FIGURE 19. AIR LINES, HOSES AND FITTINGS (M448, M103A1, M105A1, M107A1, M103A2, M103A3, M103A4, M105A2, M107A2, M107A2C).

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(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION		(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.						USABLE ON CODE		
						1208(CONT)			
19	1	PAOZZ	2530-00-137-9235	19207	7411021	DUMMY COUPLING,AUTO DUMMY WITH CHAIN	701 702 704 706 707 711 712 713 714 715	EA	1
19	2	PA000	4720-00-679-0923	23705	A298408	HOSE ASSEMBLY	701 702 704 706 707 711 712 713 714 715	EA	1
19	3	PFOZZ		96906	MS36749	PACKING	701 702 704 706 707 711 712 713 714 715	EA	1
19	4	PAOZZ	4730-00-595-0083	96906	MS35746-1	COUPLING HALF,QUICK	701 702 704 706 707 711 712 713 714 715	EA	1
19	5	PFOZZ		96906	MS39133-2	ADAPTER,STRAIGHT,PI HOSE ASSEMBLY	701 702 704 706 707 711 712 713 714 715	EA	1
19	6	MOOZZ		19207	33-H-787-125-72	HOSE,RUBBER MANUFACTURE FROM P/N 33-H-787-125	701 702 704 706 707 711 712 713 714 715	EA	1
19	7	PFOZZ		96906	MS39133-1	ADAPTER,STRAIGHT,PI	701 702 704 706 707 711 712 713 714 715	EA	1
19	8	PAOZZ	4730-00-287-3163	23705	297640	REDUCER,PIPE	701 702 704 706 707 711 712 713 714 715	EA	1
19	9	PAOZZ	4730-00-069-1186	79146	HO-168-6X4	ADAPTER,STRAIGHT,PI	701 702 704 706 707 711 712 713 714 715	EA	2
19	10	MOOZZ		19207	44-T-5085-25-79	TUBE,METALLIC MANUFACTURE FROM P N 44-T-5080-25	701 702 704 706 707 711 712 713 714 715	EA	1
19	11	PAOZZ	5305-00-855-0964	96906	MS24629-48	SCREW,TAPPING,THREA	701 702 704 706 707 711 712 713 714 715	EA	2
19	12	PAOZZ	4010-00-032-2902	19207	8342194	CLAMP,LOOP	701 702 704 706 707 711 712 713 714 715	EA	2
19	13	PAOZZ	4730-00-069-1187	96906	MS39182-3	ELBOW,PIPE TO TUBE AIR LINE	701 702 704 706 707 711 712 713 714 715	EA	1
19	14	PA000	2530-00-797-9295	23705	A298749	AIR FILTER,BRAKE LI ASSEMBLY	701 711 713	EA	2
19	14	PA000	2530-00-797-9295	23705	A298749	AIR FILTER,BRAKE LI	702 704 706 707 712 714 715	EA	1

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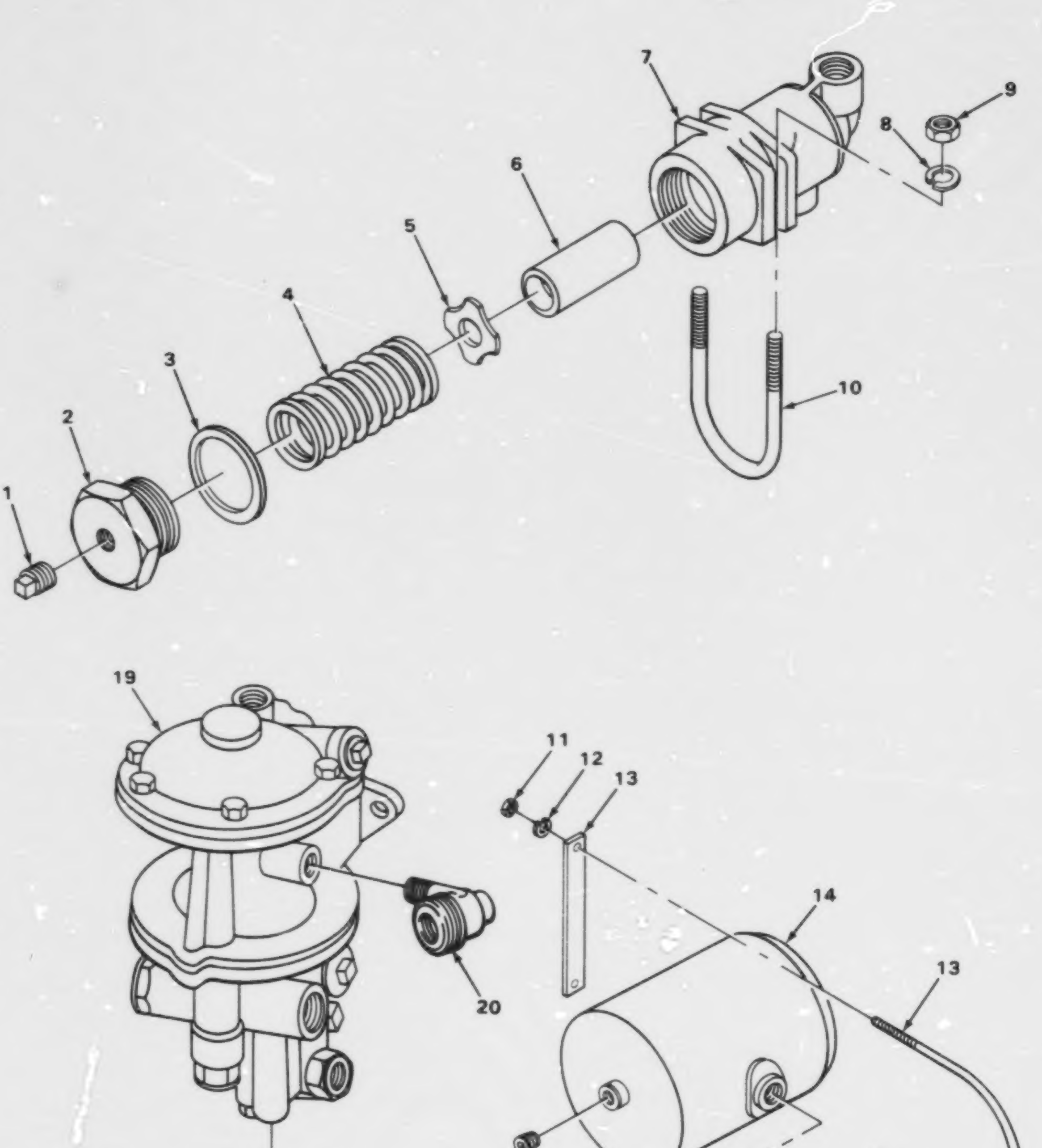
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FIGURE 20. AIR FILTER, EMERGENCY RELAY VALVE AND RESERVOIR (M448, M103A1, M105A1, M107A1, M103A2, M103A3, M103A4, M105A2, M107A2, M107A2C).

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1208(CONT)		
20	1	PAOZZ	4730-00-221-2136	96906	MS20913-1S	PLUG,PIPE 701,702,704,706,707,711,712,713,714,715	EA	1
20	2	PAOZZ	4730-00-580-8457	06853	235091	ADAPTER BUSHING 701,702,704,706,707,711,712,713,714,715	EA	1
20	3	PAOZZ	5330-00-285-5123	91340	M4X509	GASKET PART OF KIT P/N RN13A 701,702,704,706,707,711,712,713,714,715	EA	1
20	4	PAOZZ	5360-00-706-9054	06853	235093	SPRING,HELICAL,COMP PART OF KIT P/N RN13A 701,702,704,706,707,711,712,713,714,715	EA	1
20	5	PAOZZ	5310-00-679-3606	40342	N12972	WASHER,SPRING TENSI 701,702,704,706,707,711,712,713,714,715	EA	1
20	6	PAOZZ	2530-00-741-1081	23705	N12971	FILTER,ELEMENT FLUI PART OF KIT P/N RN13A 701,702,704,706,707,711,712,713,714,715	EA	1
20	7	PAOZZ	2530-00-741-5748	40342	N-12970-A	ELBOW BODY,AIR LINE 701,702,704,706,707,711,712,713,714,715	EA	1
20	8	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK 701,711,713	EA	4
20	8	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK 702,704,706,707,712,714,715	EA	2
20	9	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT,PLAIN,HEXAGON U BOLT 701,711,713	EA	4
20	9	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT,PLAIN,HEXAGON 702,704,706,707,712,714,715	EA	2
20	10	PAOZZ	5306-00-797-9296	19207	7979296	BOLT,U AIR FILTER 701,711,713	EA	2
20	10	PAOZZ	5306-00-797-9296	19207	7979296	BOLT,U AIR FILTER 702,704,706,707,712,714,715	EA	1
20	11	PAOZZ	5310-00-880-7746	96906	MS51968-5	NUT,PLAIN,HEXAGON AIR TANK,STRAP 701,702,704,706,707,711,712,713,714,715	EA	4
20	12	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER,LOCK 701,702,704,706,707,711,712,713,714,715	EA	4
20	13	PAOZZ	5306-01-043-5702	19207	11625105	BOLT U MOUNTING AIR TANK,BRAKE SYSTEM 701,702,704,706,707,711,712,713,714,715	EA	2
20	14	PAOZZ	2530-01-042-0683	19207	11625104	TANK,PRESSURE AIR RESERVOIR 701,702,704,706,707,711,712,713,714,715	EA	1
20	15	PAOZZ	4730-00-196-1468	96906	MS51953-97	NIPPLE,PIPE POWER BRAKE SYSTEM 701,702,704,706,707,711,712,713,714,715	EA	1
20	16	PAOZZ	4820-00-849-1220	96906	MS35782-5	COCK,DRAIN CONDENSATION,DRAIN 701,702,704,706,707,711,712,713,714,715	EA	1
20	17	PAOZZ	4730-00-057-5555	96906	MS49005-6	PLUG,PIPE 701,702,704,706,707,711,712,713,714,715	EA	1
20	18	PAOZZ	4730-00-069-1187	96906	MS39182-3	ELBOW,PIPE TO TUBE POWER BRAKE SYSTEM 701,702,704,706,707,711,712,713,714,715	EA	1
20	19	PAOZZ	2530-00-021-2366	96906	MS53004-2	VALVE,EMERGENCY REL POWER BRAKE SYSTEM 701,702,704,706,707,711,712,713,714,715	EA	1
20	20	PAOZZ	4820-00-350-6749	19207	7979297	VALVE, CHECK	EA	1

(1) ILLUS-TRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						1208(CONT)			
20		PAOZZ	2530-00-696-0351	40342	RN13A	PARTS KIT,FLUID PRE	701,702,704,706,707,711,712,713,714,715	EA	1
20	3					GASKET		EA	1
20	4					SPRING,HELICAL,COMP		EA	1
20	6					FILTER,ELEMENT,FLUI		EA	1

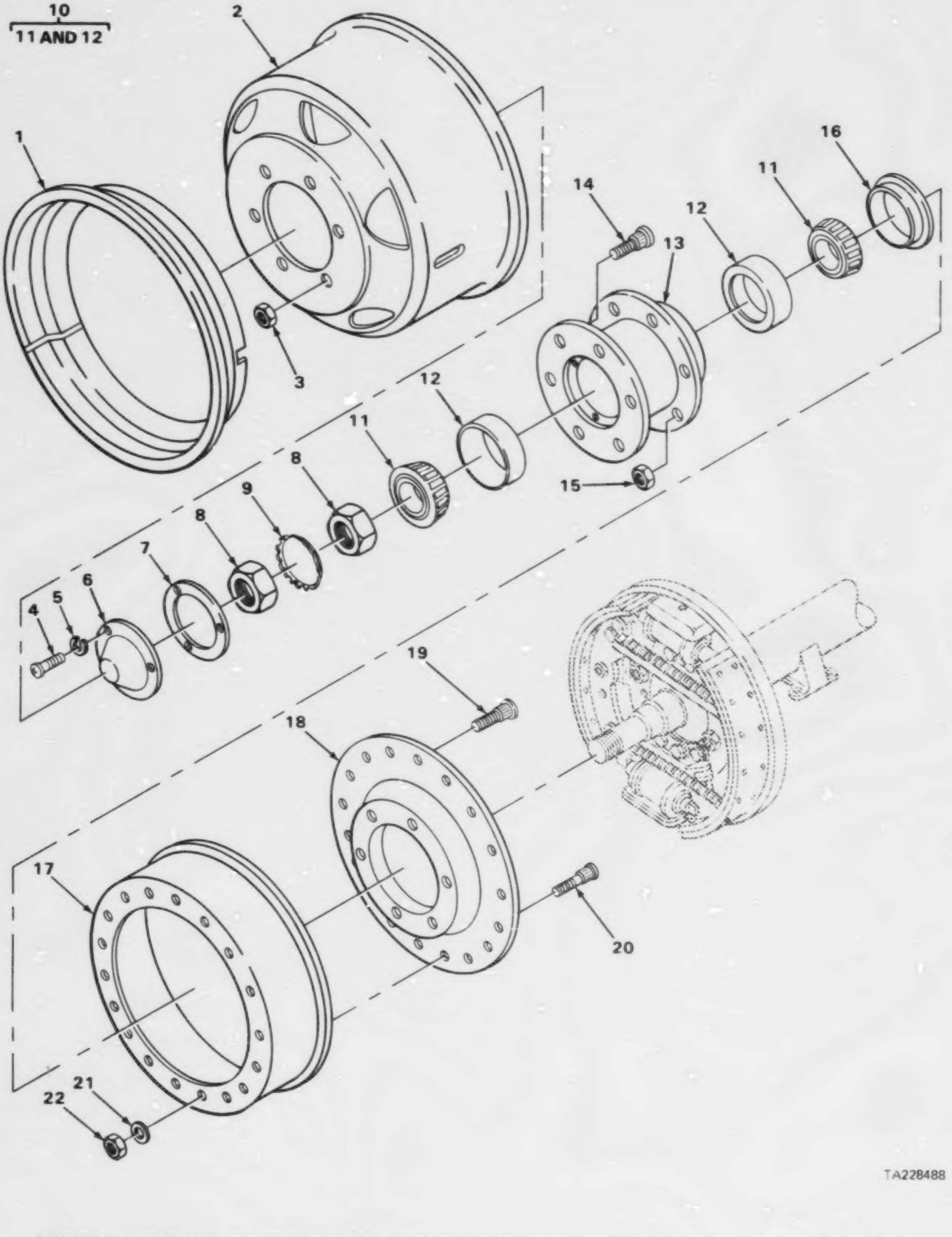
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FIGURE 21. HUB AND DRUM ASSEMBLY (M105A2C, M103A3C, M448, M103A3, M103A4, M105A2, M107A2, M107A2C).

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(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.							
						GROUP 13-WHEEL AND TRACKS 1311-WHEEL ASSEMBLY		
21	1	PAOZZ	2530-00-738-9061	96906	MS53045-3	RING,SIDE,AUTOMOTIV......698,699,701,711,712,713,714,715	EA	2
21	2	PAOZZ	2530-00-026-0265	96906	MS53044-5	WHEEL PNEUMATIC TIR......698,699,701,711,712,713,714,715	EA	2
21	3	PAOZZ	5310-00-518-5566	96906	MS51983-1	NUT,PLAIN,SINGLE BA LEFT HAND..698,699,701,711,712,713, ...714,715	EA	6
21	3	PAOZZ	5310-00-594-8038	96906	MS51983-2	NUT,PLAIN,SINGLE BA RIGHT HAND.....698,699,701,711,712, ...713,714,715	EA	6
21	4	PAOZZ	5305-00-988-1723	96906	MS35206-279	SCREW,MACHINE............698,699,701,711,712,713,714,715	EA	3
21	5	PAOZZ	5310-00-274-8715	96906	MS35338-63	WASHER,LOCK..............698,699,701,711,712,713,714,715	EA	3
21	6	PAOZZ	2530-00-614-4454	19204	6144454	CAP......................698,699,701,711,712,713,714,715	EA	2
21	7	PAOZZ	5330-01-147-1629	19207	6144356	GASKET...................698,699,701,711,712,713,714,715	EA	2
21	8	PAOZZ	5310-00-741-1379	19207	7411379	NUT,PLAIN,OCTAGON HUB BEARING. 698,699,701,711,712,713, ...714,715	EA	4
21	9	PAOZZ	5310-00-741-1378	19207	7411378	WASHER,KEY..........................701,711,712,713,714	EA	2
21	9	PAOZZ	5310-00-741-1378	19207	7411378	WASHER,KEY AXLE HUB.........................698,699,715	EA	4
21	10	PAOOO	2530-00-693-1010	09386	71423E	HUB AND CUP ASSEMBL WITH BEARING CUPS..698,699,701,711, ...712,713,714,715	EA	2
21	11	PAOZZ	3110-00-143-7538	43334	A127418	.CONE AND ROLLER,TA......698,699,701,711,712,713,714,715	EA	2
21	12	PAOZZ	3110-00-143-7586	23705	712869	.CUP,TAPERED ROLLER......698,699,701,711,712,713,714,715	EA	2
21	13	PAOZZ	1440-00-677-0202	19207	8719915	HUB,DUAL.................698,699,701,711,712,713,714,715	EA	2
21	14	PAOZZ	5306-00-733-9239	96906	MS51946-1	BOLT,RIBBED SHOULDE LEFT HAND WHEEL....698,699,701,712, ...712,713,714,715	EA	6
21	14	PAOZZ	5306-00-383-4957	96906	MS51946-2	BOLT,RIBBED SHOULDE RIGHT HAND.....698,699,701,711,712, ...713,714,715	EA	6
21	15	PAOZZ	5310-00-998-0608	96906	MS35692-61	NUT,PLAIN,SLOTTED........698,699,701,711,712,713,714,715	EA	12
21	16	PAOZZ	5330-00-741-1429	19207	7411429	SEAL,PLAIN ENCASED HUB ASSEMBLY....698,699,701,711,712, ...713,714,715	EA	2
21	17	PAOFF	2530-00-741-1425	24617	2284031	BRAKE DRUM VEHICULAR....698,699,701,711,712,713,714,715	EA	2
21	18	PAOZZ	2530-00-322-7257	57416	2C355	BACK FRONT BRAKE DR TRAILER....698,699,701,711,712,713, ...714,715	EA	2
21	19	PAOZZ	5306-00-206-1560	96906	MS51946-11	BOLT,RIBBED SHOULDE ADAPTER TO HUB.....698,699,701,711, ...712,713,714,715	EA	12
21	20	PAOZZ	5306-00-335-4768	18876	8720025	BOLT,RIBBED NECK.........698,699,701,711,712,713,714,715	EA	36

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(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1311(CONT)		
21	21	PAOZZ	5310-00-080-6004	96906	MS27183-14	WASHER,FLAT BRAKE DRUM ADAPTER.....698,699,701,711,712, ...713,714,715	EA	36
21	22	PFOZZ	5310-00-982-4908	96906	MS21045-6	NUT,SELF LOCKING.........698,699,701,711,712,713,714,715	EA	36

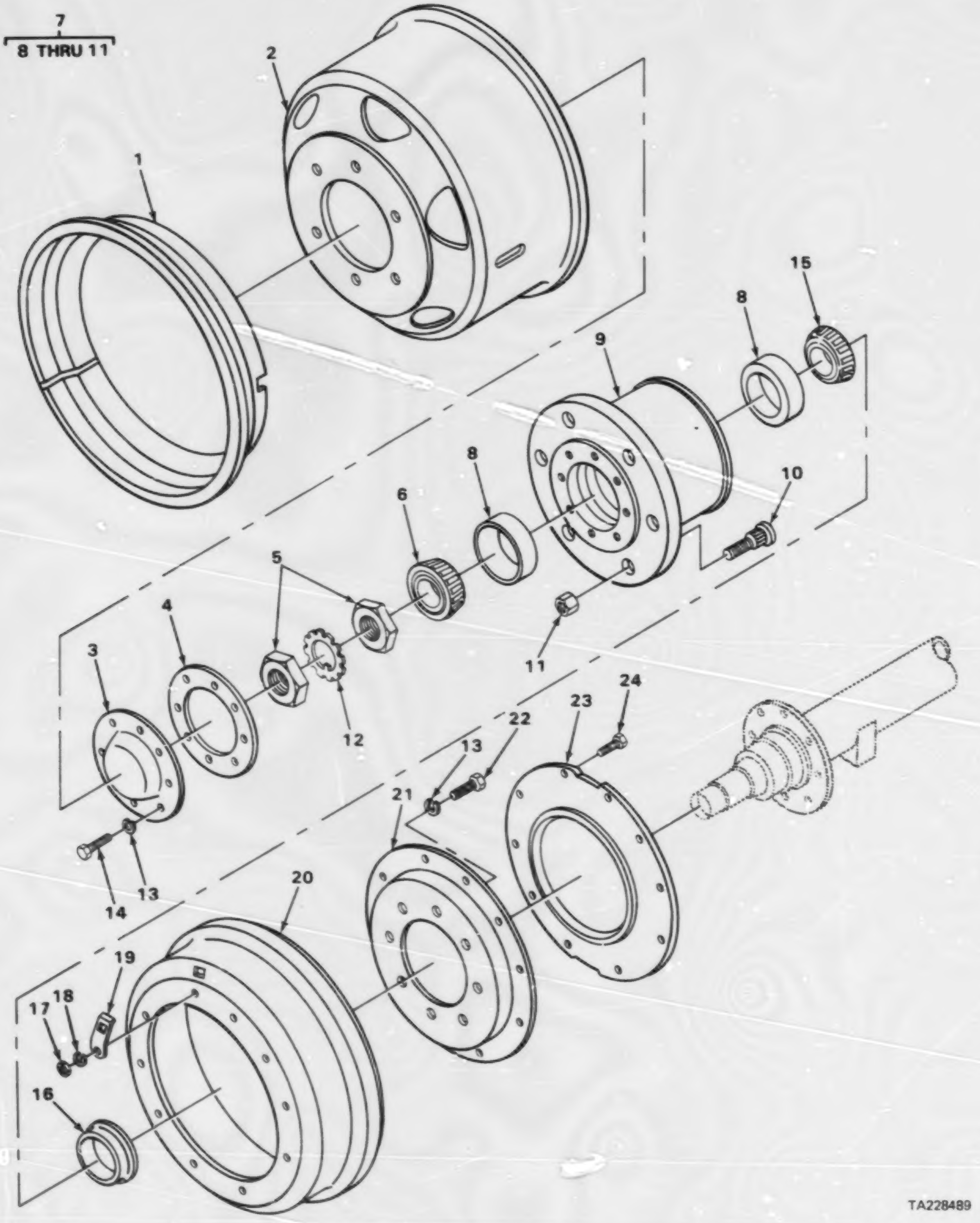
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FIGURE 22. HUB AND DRUM ASSEMBLY (M103A1, M105A1, M107A1, M103A2).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1311(CONT)			
22	1	PAOZZ	2530-00-738-9061	96906	MS53045-3	RING,SIDE,AUTOMOTIV	702,704,706,707	EA	2
22	2	PAOZZ	2530-00-026-0265	96906	MS53044-5	WHEEL PNEUMATIC TIR	702,704,706,707	EA	2
22	3	PAOZZ	2530-00-026-0255	78500	3262H86	CAP,GREASE HUB ASSEMBLY	702,704,706,707	EA	2
22	4	PAOZZ	5330-00-599-4230	19207	7521787	GASKET CAP	702,704,706,707	EA	2
22	5	PAOZZ	5310-00-752-1633	19207	7521633	NUT,PLAIN,OCTAGON BEARING RETAINING	702,704,706,707	EA	4
22	6	PAOZZ	3110-00-100-0232	08162	BT392	CONE AND ROLLERS,TA	702,704,706,707	EA	2
22	7	PAOOC	2530-00-752-1655	78500	A333E785	HUB ASY WITH BEARING CUP	702,704,706,707	EA	2
22	8	PAOZZ	3110-00-198-0014	60038	3920-4-192	.CUP,TAPERED ROLLER	702,704,706,707	EA	4
22	9	XDOZZ		19207	8375986	.HUB	702,704,706,707	EA	2
22	10	PAOZZ	5306-00-206-6340	96906	MS51946-4	.BOLT,RIBBED SHOULDE WHEEL, RIGHT	702,704,706,707	EA	6
22	10	PAOZZ	5306-00-206-6339	96906	MS51946-3	. BOLT,RIBBED SHOULDE LEFT,WHEEL	702,704,706,707	EA	6
22	11	PAOZZ	5310-00-053-7804	21450	537804	.NUT,SELF-LOCKING,SI WHEEL HUB	702,704,706,707	EA	6
22	11	PAOZZ	5310-00-594-8038	96906	MS51983-2	.NUT,PLAIN,SINGLE BA WHEEL HUB	702,704,706,707	EA	6
22	12	PAOZZ	5310-00-151-8992	19207	7521650	WASHER,KEY BEARING RETAINING	702,704,706,707	EA	2
22	13	PAOZZ	5310-00-584-5272	96906	MS35338-48	WASHER,LOCK	702,704,706,707	EA	32
22	14	PAOZZ	5305-00-206-3518	12204	120426	SCREW,CAP,HEXAGON H	702,704,706,707	EA	16
22	15	PAOZZ	3110-00-100-3096	08162	BT3994	CONE AND ROLLERS,TA HUB ASSEMBLY	702,704,706,707	EA	2
22	16	PAOZZ	5330-00-693-0625	78500	A1205Z650	SEAL,PLAIN ENCASED	702,704,706,707	EA	2
22	17	PFOZZ		96906	MS35609-625	NUT,PLAIN,HEXAGON	702,704,706,707	EA	20
22	18	PAOZZ	5310-01-130-9065	96906	MS35338-46	WASHER,LOCK	702,704,706,707	EA	20
22	19	PAOZZ	2530-00-752-1667	19207	7521667	COVER	702,704,706,707	EA	2
22	20	PAOFF	2530-00-288-2986	19207	10896696	BRAKE DRUM	702,704,706,707	EA	2
22	21	PAOZZ	2530-00-026-0251	19207	7521663	ADAPTER,BRAKE DRUM WITH RING	702,704,706,707	EA	2
22	22	PAOZZ	5306-00-752-1631	19207	7521631	BOLT,MACHINE ADAPTER	702,704,706,707	EA	16
22	23	PAOZZ	2530-00-293-1752	19207	7521664	DEFLECTOR,DIRT AND BRAKE	702,704,706,707	EA	2
22	24	PAOZZ	5306-00-275-5700	19207	7521629	BOLT,RIBBED SHOULDE DEFLECTOR	702,704,706,707	EA	20

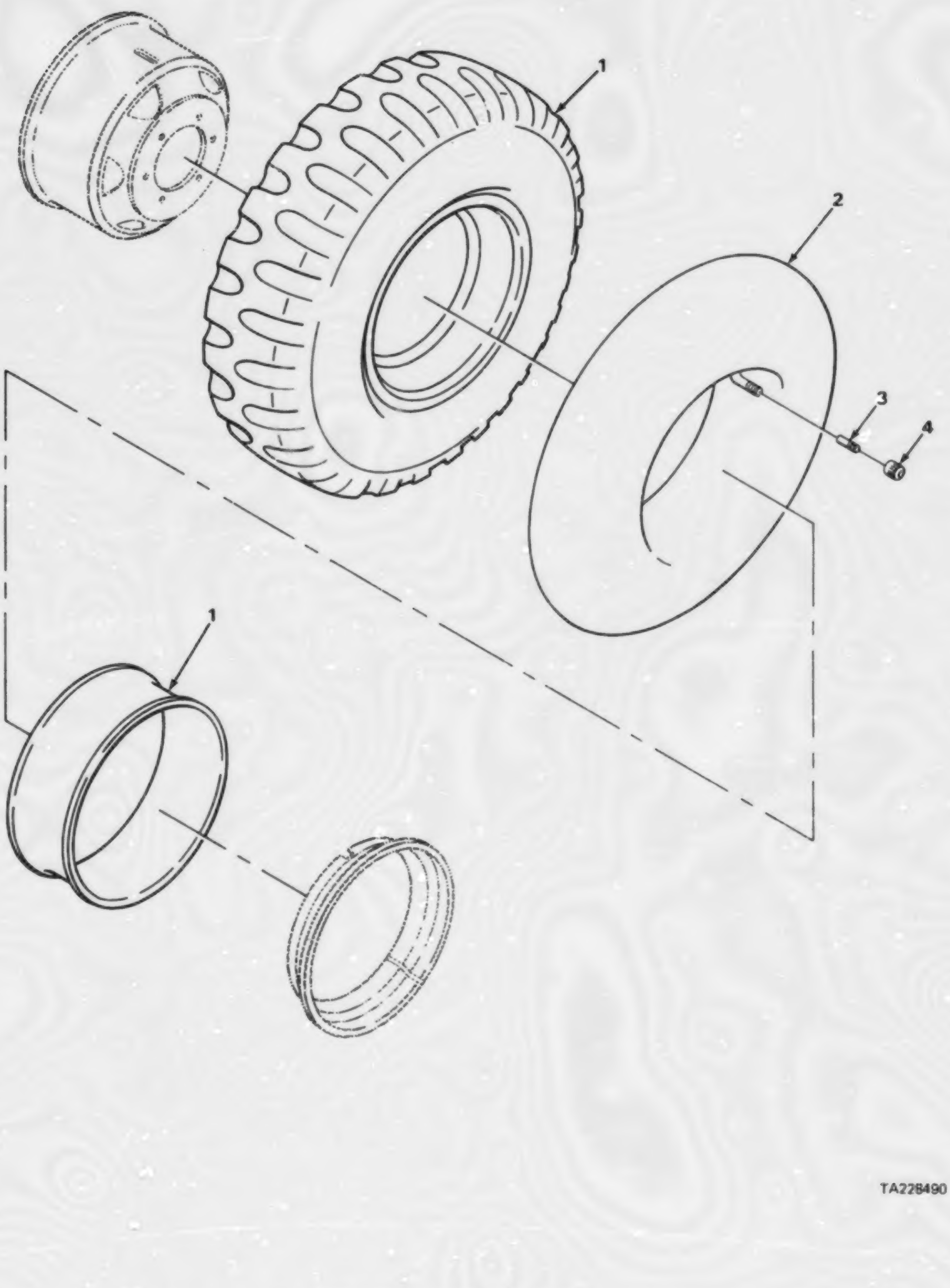
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FIGURE 23. TIRE AND TUBE.

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						1313-TIRES AND TUBES		
23	1	PAOFF	2610-00-262-8677	81348	ZZ-T-381M/GROUP3/9.00-20/D/TBCC	TIRE,PNEUMATIC......................................	EA	2
23	2	PA000	2610-00-269-7383	81348	ZZ-I-550/900-20/TR175A/ONCTR	INNER TUBE,PNEUMATI 900 X 20......................	EA	2
23	3	PAOZZ	2640-00-810-5861	96906	MS51377-1	VALVE CORE PNEUMATIC TIRE..........................	EA	2
23	4	PAOZZ	2640-00-060-3550	51665	US48	CAP,PNEUMATIC VALVE PNEUMATIC TIRE................	EA	2

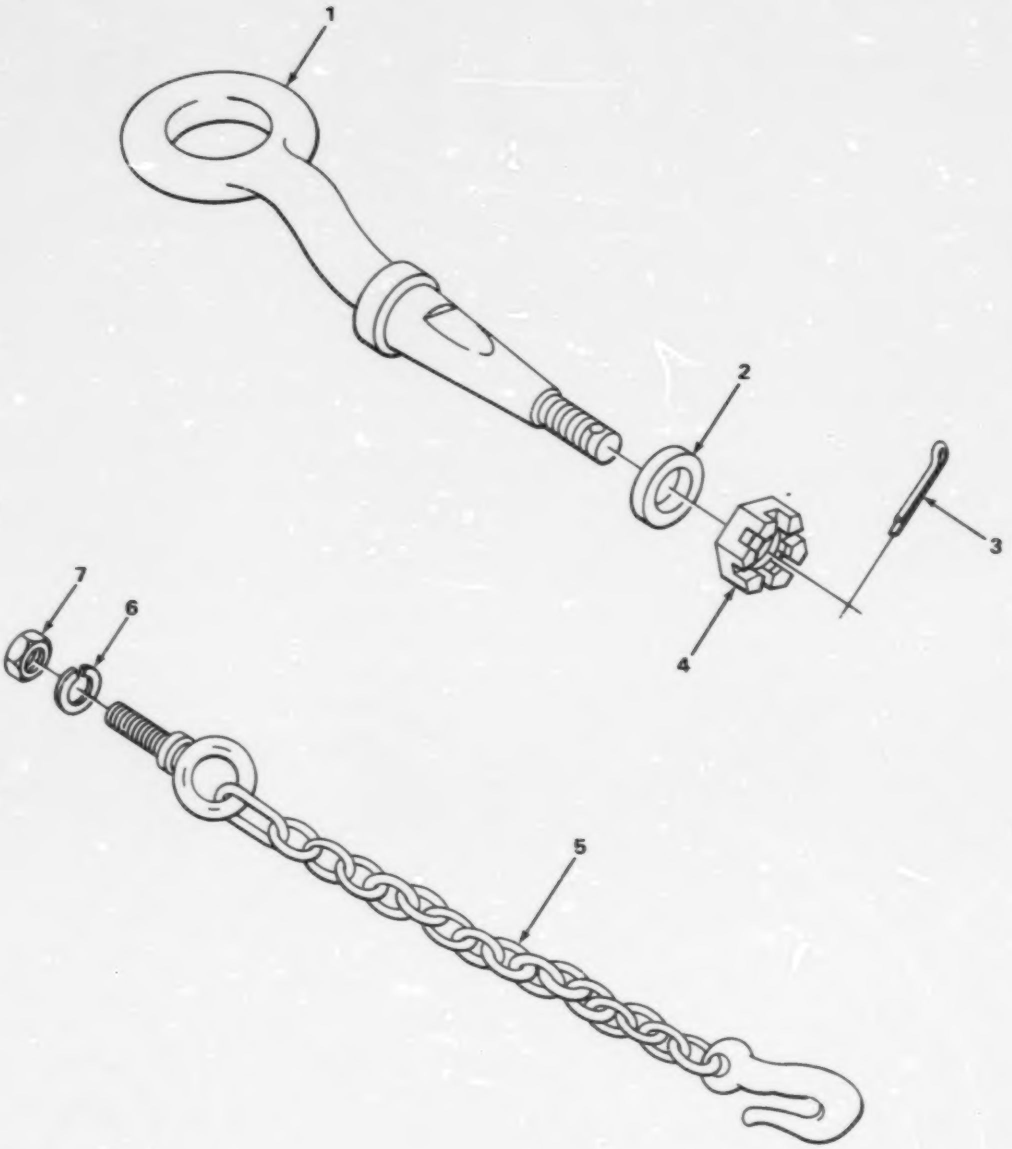
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FIGURE 24. DRAWBAR RING AND SAFETY CHAIN.

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 15-FRAME, TOWING ATTACHMENTS AND DRAWBARS 1503-PINTLES AND TOWING ATTACHMENTS		
24	1	PFOZZ		96906	MS51339-2	COUPLER DRAWBAR RIN	EA	1
24	2	PAOZZ	5310-00-044-6284	24617	446284	WASHER,FLAT	EA	1
24	3	PAOZZ	5315-00-234-1664	96906	MS24665-495	PIN,COTTER	EA	1
24	4	PAOZZ	5310-00-741-1028	19207	7411028	NUT,PLAIN,SLOTTED,H COUPLER	EA	1
24	5	PAOZZ	4010-00-741-1027	19207	7411027	CHAIN ASSEMBLY,SING SAFETY	EA	2
24	6	PAOZZ	5310-00-820-6653	96906	MS35338-50	WASHER,LOCK	EA	2
24	7	PAOZZ	5310-00-763-8920	96906	MS51967-20	NUT,PLAIN,HEXAGON DRAWBAR	EA	2

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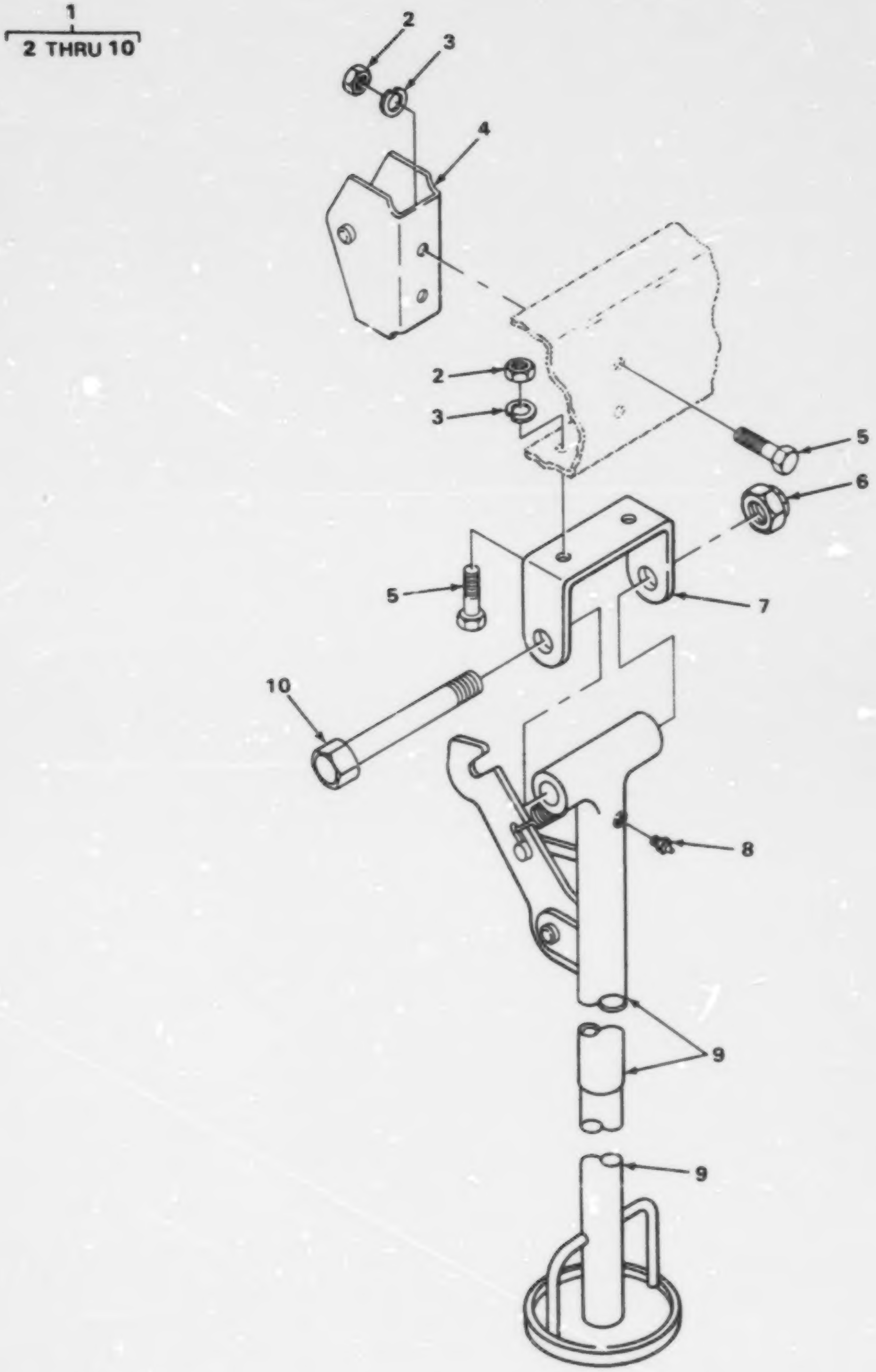
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FIGURE 25. SUPPORT LEG (M105A1, M105A2).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1507-LANDING GEAR, LEVELING JACKS			
25	1	PA000	2590-01-026-4179	19207	8681929	SUPPORT, ASSY, RETR	704,713	EA	1
25	2	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT, PLAIN, HEXAGON	704,713	EA	4
25	3	PFOZZ	5310-00-543-5101	96906	MS35338-27	WASHER	704,713	EA	4
25	4	XDOZZ		19207	8681934	BRACKET	704,713	EA	1
25	5	PAOZZ	5305-00-269-2803	96906	MS90726-60	SCREW, CAP, HEXAGON H	704,713	EA	4
25	6	PAOZZ	5310-00-067-6356	96906	MS51922-57	NUT, SELF-LOCKING, HE	704,713	EA	1
25	7	PAOZZ	2590-00-177-8056	19207	8681933	BRACKET SUPPORT LEG	704,713	EA	1
25	8	PAOZZ	4730-00-050-4208	96906	MS15003-1	FITTING, LUBRICATION	704,713	EA	1
25	9	PAOZZ	2530-00-886-8066	19207	8681930	LEG ASSEMBLY SUPPOR	704,713	EA	1
25	10	PAOZZ	5305-00-947-4364	96906	MS90728-201	SCREW, CAP, HEXAGON H	704,713	EA	1

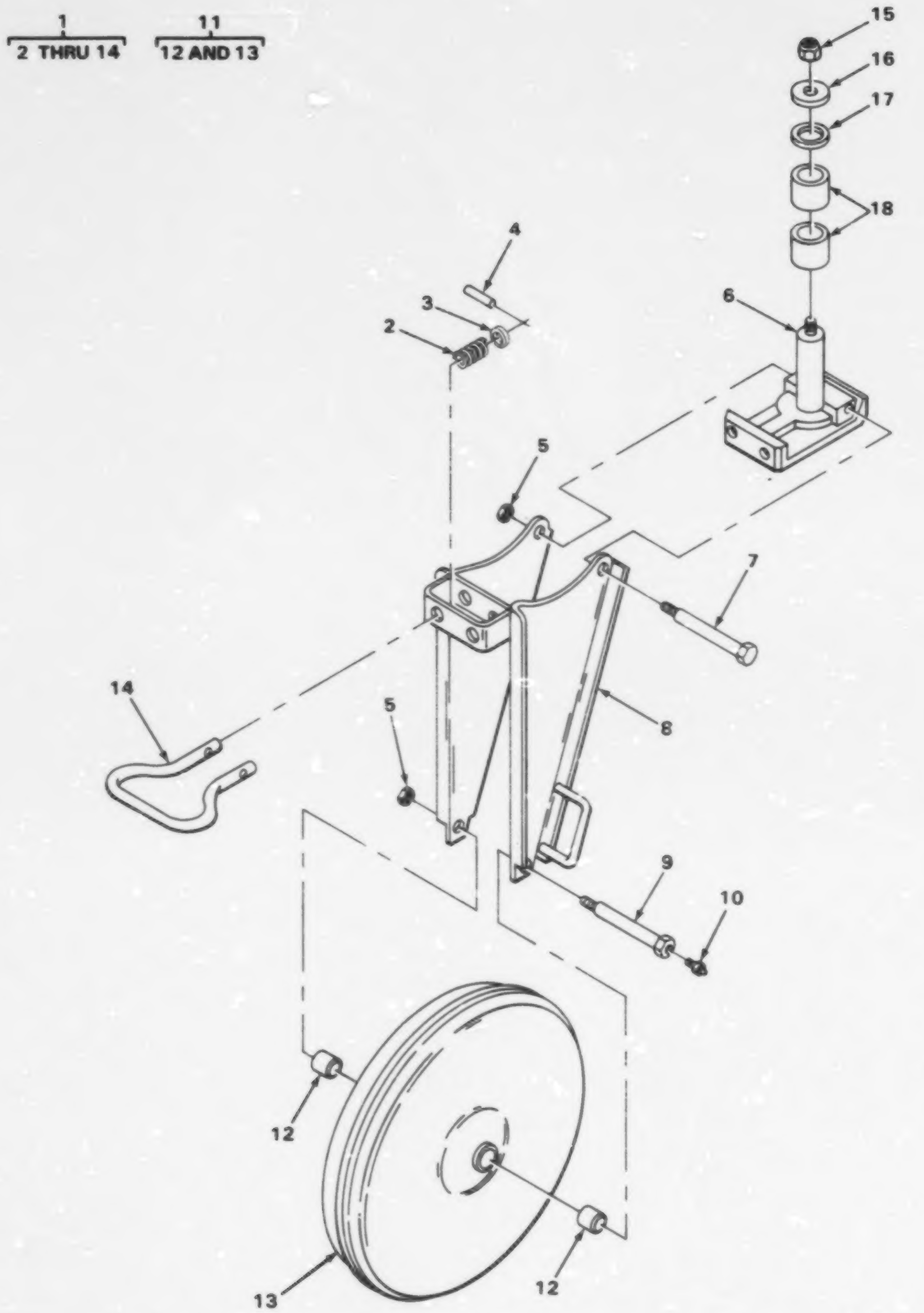
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FIGURE 26. CASTER ASSEMBLY.

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1507(CONT)		
26	1	PAOOO	5340-00-314-0760	19207	7979980	CASTER ASSY GEAR	EA	1
26	2	PAOZZ	5360-00-699-8489	19207	8331541	.SPRING,HELICAL,COMP HANDLE	EA	2
26	3	PAOZZ	5310-00-693-0738	19207	8331542	.WASHER,RECESSED HANDLE	EA	2
26	4	PAOZZ	5315-00-536-3865	19207	7979971	.PIN,STRAIGHT,HEADLE HANDLE	EA	2
26	5	XDOZZ		19207	451023	.NUT,SELFLOCKING,HEX	EA	2
26	6	PAOZZ	2530-00-693-0736	23705	324420	.BRACKET,SWIVEL,WITH	EA	1
26	7	PAOZZ	5306-00-174-4246	19207	7979972	.BOLT,SHOULDER	EA	1
26	8	PAOZZ	2590-00-693-0737	23705	324372	.LEG ASSY,CASTOR	EA	1
26	9	PAOZZ	4730-00-696-2972	23705	8331538	.BOLT,FLUID PASSAGE	EA	1
26	10	PAOZZ	4730-00-050-4208	96906	MS15003-1	.FITTING,LUBRICATION CASTER ASSEMBLY	EA	1
26	11	PAOOO	2530-00-741-1036	19207	7411036	.WHEEL METAL TIRE LA	EA	1
26	12	PAOZZ	3120-00-661-9119	23705	296641	..BEARING,SLEEVE WHEEL	EA	2
26	13	PAOZZ	2530-00-179-3393	19207	7979529	..WHEEL,METAL TIRE CASTER WHEEL ASSEMBLY	EA	1
26	14	PAOZZ	2590-00-670-1997	19207	7979974	.HANDLE	EA	1
26	15	PAOZZ	5310-00-590-7893	19207	454634	NUT,SELFLOCKING,HEX	EA	1
26	16	PAOZZ	5310-00-270-8832	19207	8330821	WASHER,FLAT SWIVEL BRACKET	EA	1
26	17	PAOZZ	5310-00-270-8834	19207	8330813	WASHER	EA	1
26	18	PAOZZ	3120-00-347-5900	19207	7979962	BEARING,SLEEVE	EA	2

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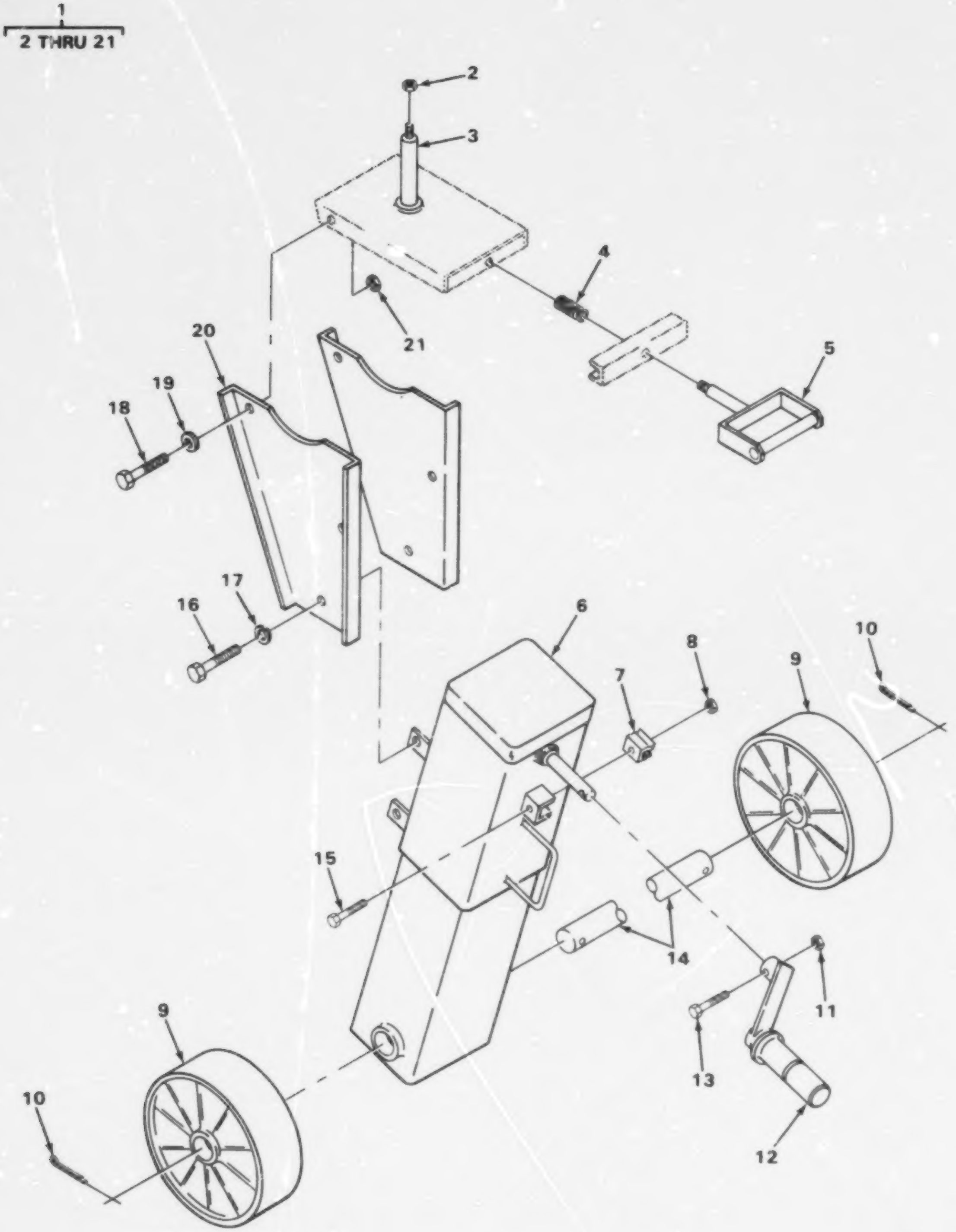
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FIGURE 27. ADJUSTABLE CASTER ASSEMBLY.

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						1507(CONT)			
27	1	PAOOO	2590-01-183-6816	19207	12259830	CASTER ASSEMBLY ADJUSTABLE		EA	1
27	2	PAOZZ	5310-00-928-6810	96906	MS21044-N12	NUT		EA	1
27	3	XDOZZ		19207	12259828	BRACKET AND SPINDLE		EA	1
27	4	XDOZZ		19207	8331541	SPRING		EA	1
27	5	XDOZZ		19207	12259856-1	HANDLE SET		EA	1
27	5	XDOZZ		19207	12259856-2	HANDLE SET		EA	1
27	6	XDOZZ		19207	12259830-1	LEG ASSEMBLY		EA	1
27	7	XDOZZ		19207	12312996	CLIP		EA	1
27	8	PAOZZ	5310-00-088-1251	96906	MS51922-1	NUT,SELF-LOCKING,HE		EA	1
27	9	XDOZZ		19207	12259845	WHEEL		EA	2
27	10	PFOZZ		96906	MS9048-234	PIN,COTTER		EA	2
27	11	PFOZZ		96906	MS17829-4C	NUT		EA	
27	12	XDOZZ		19207	12259835	CRANK ASSEMBLY		EA	
27	13	PAOZZ	5305-00-071-2241	96906	MS90725-10	SCREW,CAP,HEXAGON H		EA	1
27	14	XDOZZ		19207	12259831	AXLE ASSEMBLY		EA	1
27	15	PAOZZ	5305-00-071-2511	96906	MS90725-5	SCREW,CAP,HEXAGON H		EA	1
27	16	PAOZZ	5305-00-071-2066	96906	MS90728-109	SCREW,CAP,HEXAGON H		EA	1
27	17	PAOZZ	5310-00-584-5272	96906	MS35338-48	WASHER,LOCK		EA	1
27	18	PAOZZ	5306-00-174-4246	19207	7979972	BOLT,SHOULDER		EA	1
27	19	PAOZZ	5310-00-068-5285	96906	MS27183-20	WASHER,FLAT		EA	1
27	20	XDOZZ		19207	12259839	YOKE		EA	1
27	21	PFOZZ		96906	MS21044-N9	WASHER		EA	1

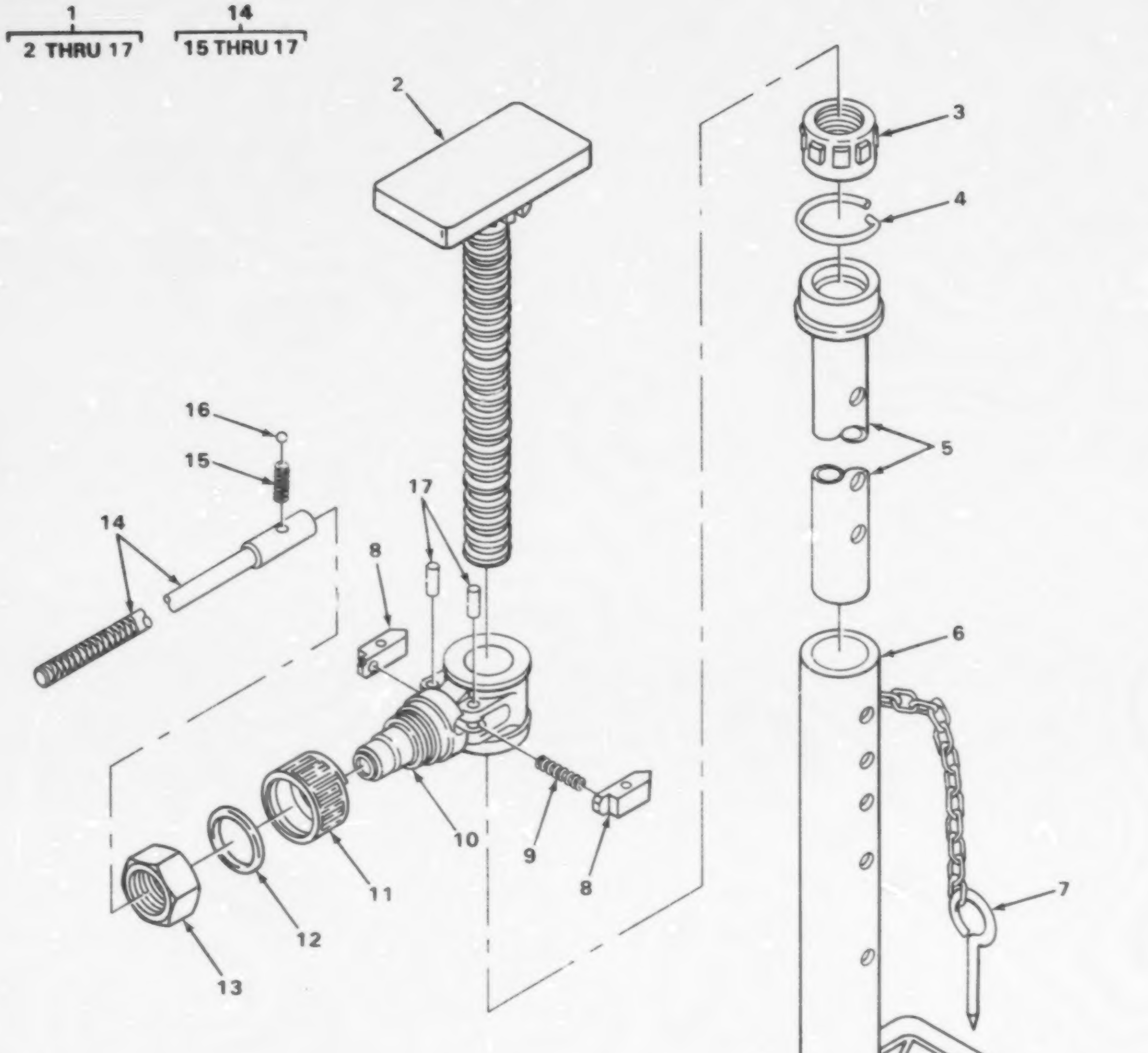
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FIGURE 28. LEVELING SUPPORT JACK ASSEMBLY (M448).

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						1507(CONT)			
28	1	PAOFF	2590-00-491-6856	19207	10885200	JACK,LEVELING-SUPPO.	701	EA	2
28	2	PFFZZ	2590-00-790-2294	19207	10885203	.SCREW ASSEMBLY,LEVE JACK	701	EA	1
28	3	PAFZZ	2590-00-790-2289	19207	7534680	.GEAR,RATCHET,LEVELI JACK	701	EA	1
28	4	PAFZZ	5365-00-819-7025	19207	7534685	.RING,RETAINING RATCHET GEAR	701	EA	1
28	5	XAFZZ		19207	10885202	.TUBE ASSEMBLY	701	EA	1
28	6	XAFZZ		19207	10885201	.TUBE ASSEMBLY	701	EA	1
28	7	PAFZZ	5315-00-790-2290	19207	7534687	.PIN,LOCK,LEVELING J	701	EA	1
28	8	PAFZZ	2590-00-790-2291	19207	7534682	.PAWL,RATCHET,LEVELI JACK	701	EA	2
28	9	PAFZZ	5360-00-347-6712	19207	7045152	.SPRING,HELICAL,COMP	701	EA	2
28	10	PAFZZ	2590-01-137-3371	19207	7534694	.HOUSING,JACK	701	EA	1
28	11	PAFZZ	2590-00-790-2292	19207	7534677	.SLEEVE,LOCK,LEVELIN JACK HANDLE	701	EA	1
28	12	XDFZZ		19207	7534686	.WASHER,FLAT	701	EA	1
28	13	PAFZZ	5310-00-763-8901	96906	MS51968-23	.NUT,PLAIN,HEXAGON	701	EA	1
28	14	PAFZZ	2590-00-790-2293	19207	7534675	.HANDLE ASSEMBLY,LEV	701	EA	1
28	15	PFFZZ	5360-01-090-4540	19207	7045149	..SPRING,HELICAL,COMP	701	EA	1
28	16	PFFZZ	3110-00-198-1050	00141	AK6	..BALL,BEARING	701	EA	1
28	17	PAFZZ	5315-00-816-5491	19207	7534690	..PIN,STRAIGHT,HEADLE RATCHET PAWL	701	EA	2

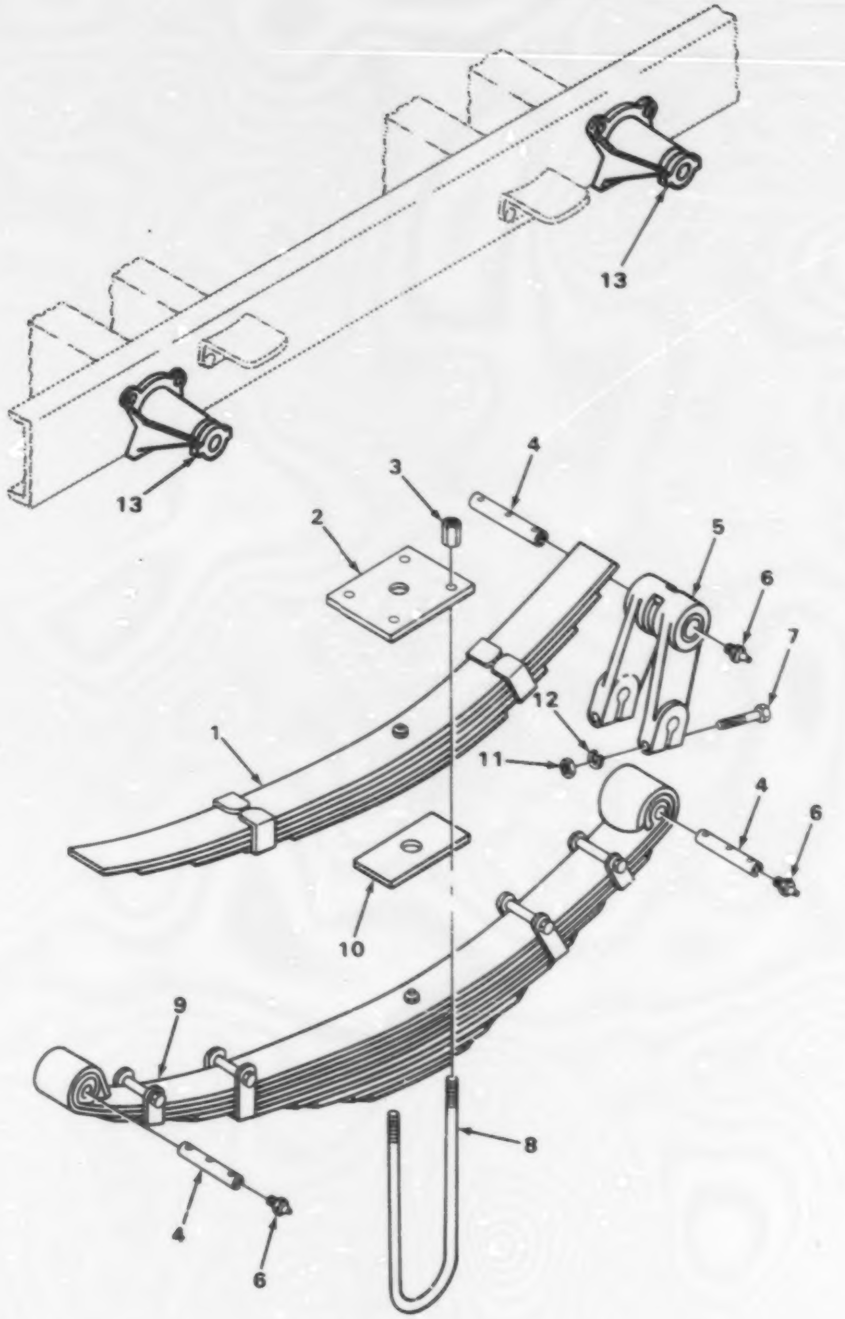
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FIGURE 29. MAIN AND AUXILIARY SPRINGS.

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 16-SPRINGS AND SHOCK ABSORBERS 1601-SPRINGS		
29	1	PAOZZ	2510-00-741-1042	19207	7411042	SPRING ASSEMBLY,LEA AUXILIARY	EA	2
29	2	XDOZZ		19207	7979573	PLATE	EA	2
29	3	PAOZZ	5310-00-427-0043	19207	7411041	NUT,PLAIN,HEXAGON SPRING U-BOLT	EA	8
29	4	PAOZZ	2510-00-752-1826	56442	2C328	PIN,VEHICULAR LEAF SPRING	EA	6
29	5	PAOZZ	2510-00-752-1841	56442	348S3	SHACKLE,LEAF SPRING W/BEARING	EA	2
29	6	PAOZZ	4730-00-050-4208	96906	MS15003-1	FITTING,LUBRICATION SPRING SHACKLE	EA	6
29	7	PAOZZ	5305-00-269-2810	96906	MS90726-68	SCREW,CAP,HEXAGON H SPRING SHACKLE	EA	8
29	8	PAOZZ	5306-00-174-4311	19207	8327047	BOLT,U SPRING	EA	4
29	9	PAOZZ	2510-00-736-8628	56933	5RE72E	SPRING ASSEMBLY,LEA MAIN	EA	2
29	10	XDOZZ		19207	7979574	PLATE	EA	2
29	11	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT,PLAIN,HEXAGON SPRING SHACKLE	EA	8
29	12	PAOZZ	5310-01-130-9065	96906	MS35338-46	WASHER,LOCK	EA	8
29	13	PAOOO	2510-01-194-9890	19207	7979525	HANGER, SPRING	EA	4

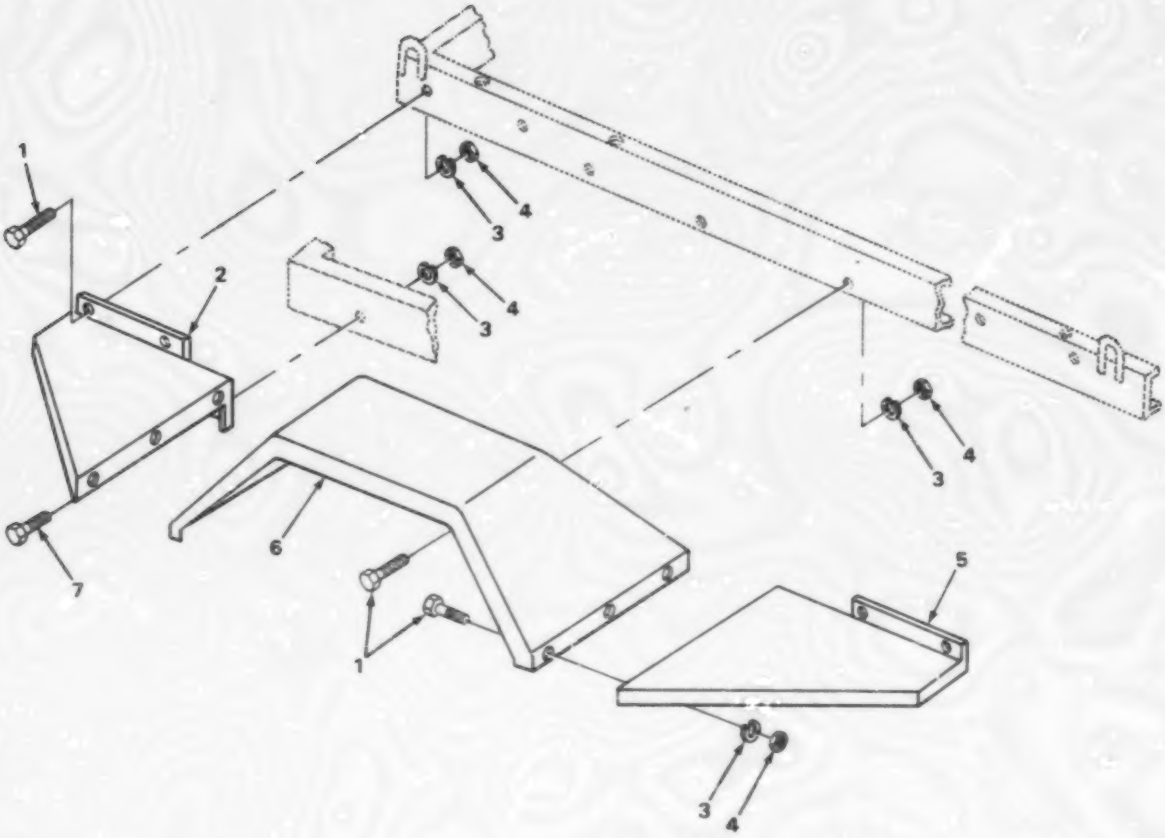
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FIGURE 30. WATER TANK FENDERS AND EXTENSIONS (M107A1, M107A2, M107A2C).

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(1) ILLUS-TRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 18-BODY, CAB AND HOOD 1802-FENDERS			
30	1	PAOZZ	5305-00-226-7767	96906	MS90726-109	SCREW,CAP,HEXAGON H	706,714,715	EA	26
30	2	XDOZZ		19207	8384133	EXTENSION	706,714,715	EA	2
30	3	PAOZZ	5310-00-584-5272	96906	MS35338-48	WASHER,LOCK	706,714,715	EA	30
30	4	PAOZZ	5310-00-732-0560	96906	MS51968-14	NUT,PLAIN,HEXAGON	706,714,715	EA	30
30	5	XDOZZ		19207	8384134	EXTENSION	706,714,715	EA	2
30	6	XDOZZ		19207	8384138	FENDER	706,714,715	EA	2
30	7	PAOZZ	5305-00-761-4227	96906	MS90726-111	SCREW,CAP,HEXAGON H	706,714,715	EA	4

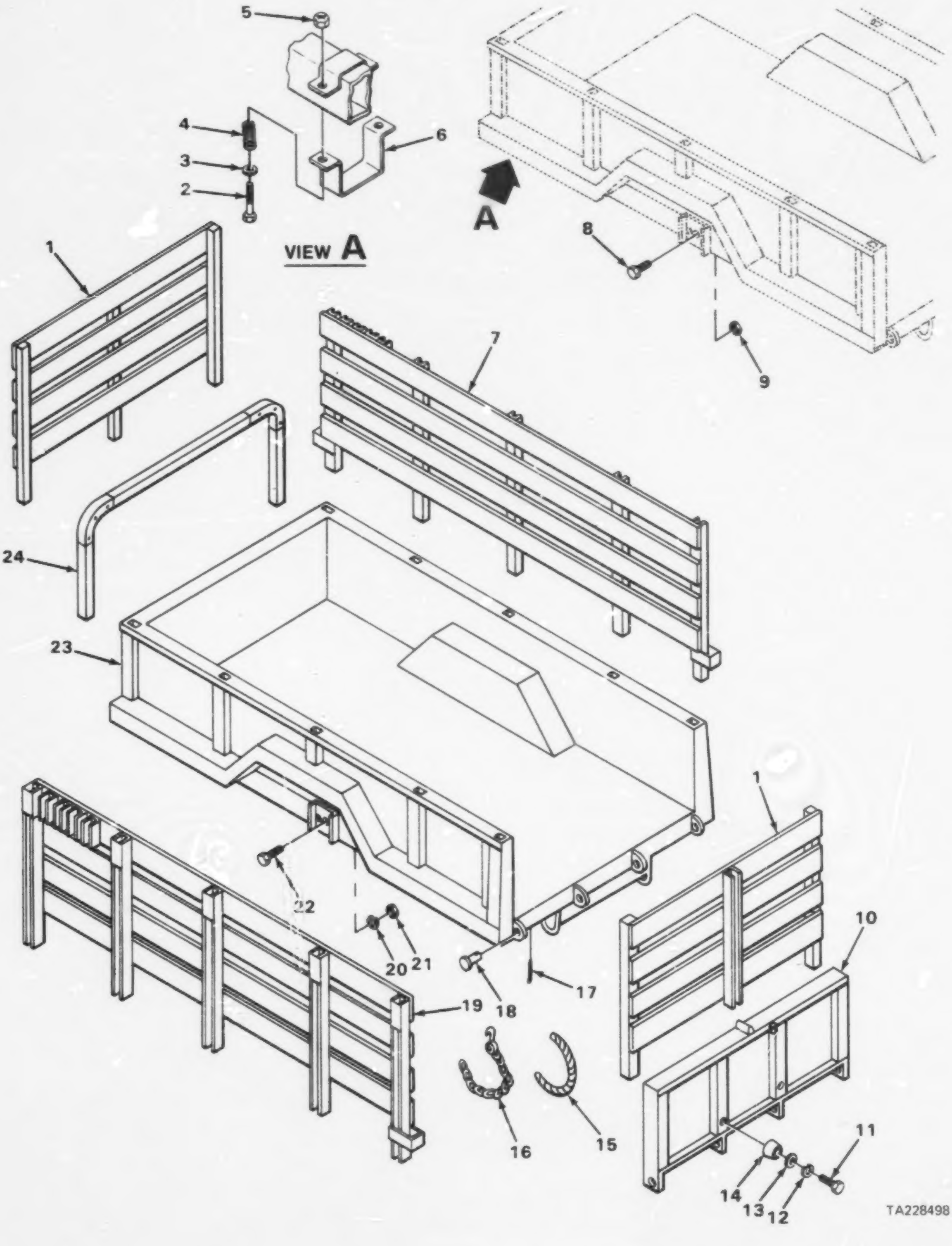
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FIGURE 31. CARGO BODY, RACKS, BOWS AND RELATED PARTS (M105A2C, M105A1, M105A2).

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1810-CARGO BODY			
31	1	PAOZZ	2510-00-590-9734	19207	8384072	SIDE RACK VEHICLE B CARGO TRAILER	698 704 713	EA	2
31	2	PFOZZ	5306-00-017-6154	24617	176154	BOLT MACHINE	704	EA	4
31	3	XDOZZ		19207	8331951	WASHER	704	EA	4
31	4	XDOZZ		19207	8331949	SPRING	704	EA	4
31	5	XDOZZ		19207	503394	LOCKNUT	704	EA	4
31	6	XDOZZ		19207	8331947	BRACKET	704	EA	2
31	7	PAOZZ	2510-00-535-6797	19207	8384071	SIDE RACK.VEHICLE B CARGO TRAILER	698 704 713	EA	1
31	8	PFOZZ	5305-00-761-4227	96906	MS90726-111	BOLT	704	EA	12
31	9	XDOZZ		19207	503388	LOCKNUT	704	EA	12
31	10	PAOZZ	2510-00-693-0741	19207	8331948	GATE.ASSY.TAIL CARGO TRAILER	698 704 713	EA	1
31	11	PAOZZ	5305-00-225-3840	96906	MS90725-7	SCREW.CAP.HEXAGON H	713	EA	2
31	12	PFOZZ	5310-00-582-5965	96906	MS35338-44	WASHER.LOCK	713	EA	2
31	13	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER.FLAT	713	EA	2
31	14	PAOZZ	5340-01-046-8106	19207	8689833	BUMPER.RUBBER	713	EA	2
31	15	MOOZZ		19207	1705812-1	COVER, CHAIN MANUFACTURE FROM NSN 8305-00-170-5812	698.704.713	EA	1
31	16	PAOZZ	4010-00-693-0743	19207	8331950	CHAIN ASSEMBLY.SING TAILGATE	698.704.713	EA	2
31	17	PAOZZ	5315-00-018-7988	96906	MS24665-493	PIN.COTTER TAILGATE	698.704.713	EA	4
31	18	PFOZZ	5315-01-164-6493	19207	7411047	PIN	698.704.713	EA	4
31	19	PAOZZ	2510-00-571-6968	19207	8384070	SIDE RACK.VEHICLE B LEFT	698.704.713	EA	1
31	20	PAOZZ	5310-00-584-5272	96906	MS35338-48	WASHER.LOCK	698 713	EA	8
31	21	PAOZZ	5310-00-732-0560	96906	MS51968-14	NUT.PLAIN.HEXAGON	698 713	EA	8
31	22	PAOZZ	5305-00-761-4227	96906	MS90726-111	SCREW.CAP.HEXAGON H	698 713	EA	8
31	23	PAOFF	2510-01-111-7097	19207	8384038	BODY.CARGO TRAILER	698.704.713	EA	1
31	24	PAOZZ	2540-00-693-0744	19207	8331952	BOW.VEHICULAR TOP CARGO TRAILER	698.704.713	EA	5

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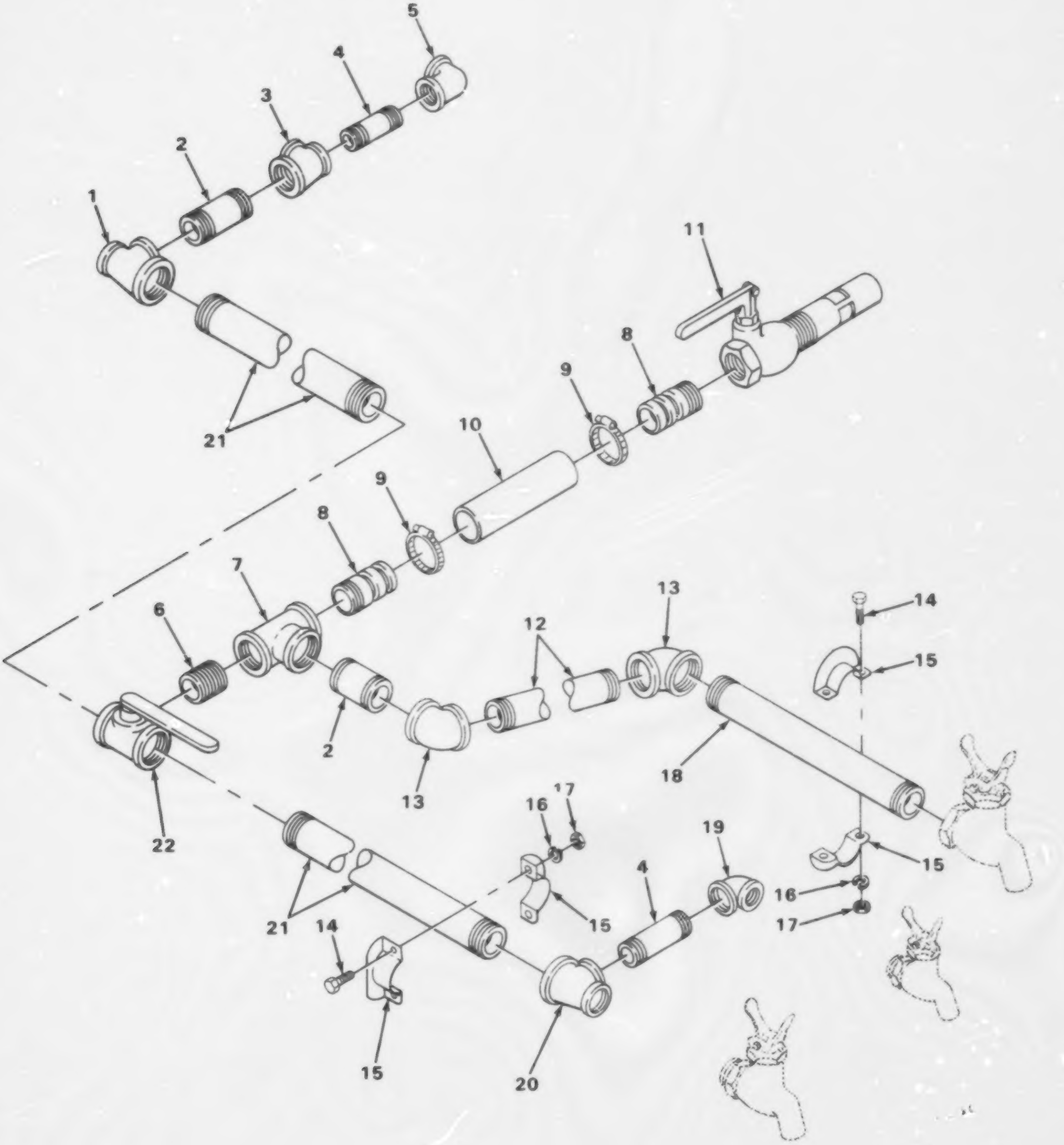
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FIGURE 32. VALVE AND PIPING ASSEMBLY (M107A1, M107A2, M107A2C).

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1811-TANK BODIES			
32	1	XDOZZ		19207	186750	TEE	706,714,715	EA	1
32	2	XDOZZ		19207	219695	NIPPLE	706,714,715	EA	2
32	3	XDOZZ		19207	186564	TEE	706,714,715	EA	1
32	4	XDOZZ		19207	219679	NIPPLE	706,714,715	EA	2
32	5	PAOZZ	4730-00-278-4774	90598	10517-2	ELBOW,PIPE	706,714,715	EA	1
32	6	PAOZZ	4730-00-196-1470	96906	MS51953-145	NIPPLE,PIPE	706,714,715	EA	1
32	7	XDOZZ		19207	144088	TEE	706,714,715	EA	1
32	8	XDOZZ		19207	8384116	NIPPLE	706,714,715	EA	2
32	9	XDOZZ		19207	502921	CLAMP	706,714,715	EA	2
32	10	PAOZZ	4720-01-095-0515	23705	319271	HOSE,NONMETALLIC	706,714,715	EA	1
32	11	PAFZZ	2590-00-611-7107	19207	8741749	VALVE,DISCHARGE,WAT EXTERNAL	706,714,715	EA	1
32	12	XDOZZ		21450	443866	NIPPLE	706,714,715	EA	1
32	13	PAOZZ	4730-00-246-9205	81996	A2303-12-51PC18	ELBOW,PIPE	706,714,715	EA	2
32	14	PFOZZ		96906	MS35292-005	BOLT	706,714,715	EA	8
32	15	XDOZZ		19207	7979635	GUARD	706,714,715	EA	4
32	16	PFOZZ		96906	MS35337-025	WASHER	706,714,715	EA	8
32	17	PAOZZ	5310-00-768-0319	96906	MS51968-2	NUT,PLAIN,HEXAGON	706,714,715	EA	8
32	18	XDOZZ		21450	443864	NIPPLE,PIPE TANK BODIES	706,714,715	EA	1
32	19	XDOZZ		19207	179536	ELBOW	706,714,715	EA	1
32	20	XDOZZ		19207	10944734	TEE	706,714,715	EA	1
32	21	PAOZZ	4710-00-143-9053	19207	7979633	PIPE,STEEL	706,714,715	EA	2
32	22	PAOZZ	4820-00-142-2099	19207	7412255	VALVE,PLUG MANIFOLD	706,714,715	EA	1

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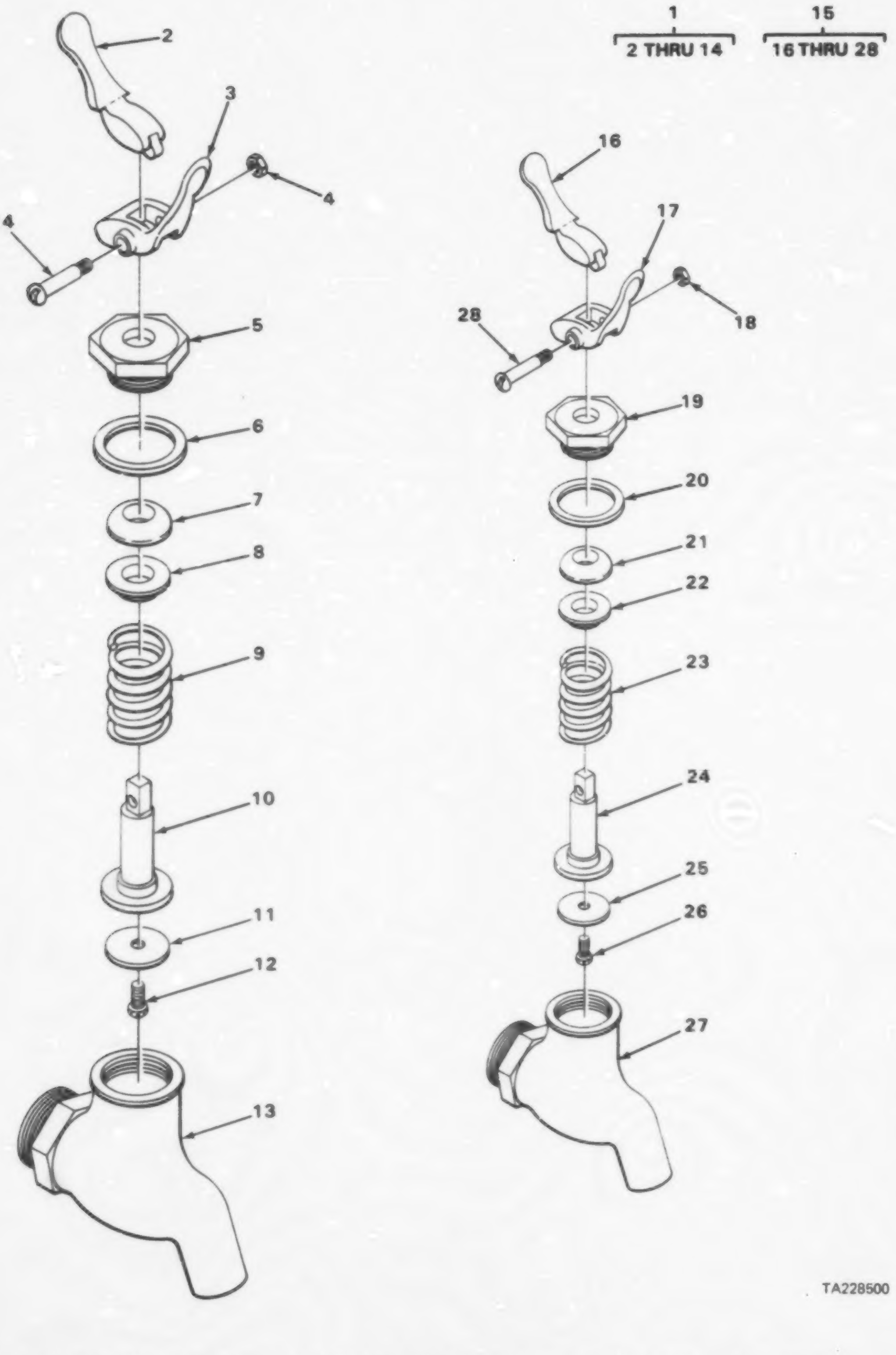
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FIGURE 33. HALF-INCH AND ONE-INCH FAUCET ASSEMBLY (M107A1, M107A2, M107A2C).

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						1811(CONT)			
33	1	PAOOO	4510-00-741-2238	86107	29-1	FAUCET,SINGLE	706,714,715	EA	1
33	2	PAOZZ	4510-00-318-8207	19207	8681887	.HANDLE,WATER TANK FAUCET ASSEMBLY	706,714,715	EA	1
33	3	PAOZZ	4510-00-318-8208	19207	8681888	.HANDLE,WATER TANK FAUCET ASSEMBLY	706,714,715	EA	1
33	4	XAOZZ		96906	MS35649-286	.NUT,PLAIN,HEXAGON	706,714,715	EA	1
33	5	XAOZZ		19207	8681889	.CENTERPIECE	706,714,715	EA	1
33	6	XAOZZ		19207	8681883	.GASKET	706,714,715	EA	1
33	7	PAOZZ	2540-00-741-2280	23705	A297940-6	.DISK,VALVE TANK BODIES	706,714,715	EA	1
33	8	XAOZZ		19207	8681873	.GLAND	706,714,715	EA	1
33	9	XAOZZ		19207	8681882	.SPRING	706,714,715	EA	1
33	10	XAOZZ		19207	8681885	.STEM	706,714,715	EA	1
33	11	PAOZZ	5310-00-741-1200	19207	7411200	.WASHER,FLAT WATER FAUCET ASSEMBLIES	706,714,715	EA	1
33	12	PAOZZ	5305-00-416-6297	96906	MS35226-64	.SCREW,MACHINE	706,714,715	EA	1
33	13	XAOZZ		19207	8681891	.BODY	706,714,715	EA	1
33	14	PAOZZ	5305-00-182-9313	19207	8681877	.SCREW,SHOULDER	706,714,715	EA	1
33	15	XDOOO		19207	7412237	FAUCET,SINGLE	706,714,715	EA	4
33	16	PAOZZ	4510-00-318-8207	19207	8681887	.HANDLE,WATER TANK	706,714,715	EA	1
33	17	PAOZZ	4510-00-318-8208	19207	8681888	.HANDLE,WATER TANK	706,714,715	EA	1
33	18	XAOZZ		96906	MS35649-286	.NUT,PLAIN,HEXAGON	706,714,715	EA	1
33	19	XAOZZ		19207	8681880	.CENTERPIECE	706,714,715	EA	1
33	20	XAOZZ		19207	8681878	.WASHER	706,714,715	EA	1
33	21	PAOZZ	5330-00-741-2279	19207	7412279	.GASKET FAUCET STEM, WATER TANK	706,714,715	EA	1
33	22	XAOZZ		19207	8681874	.GLAND	706,714,715	EA	1
33	23	XAOZZ		19207	8681879	.SPRING	706,714,715	EA	1
33	24	XAOZZ		19207	8681881	.STEM	706,714,715	EA	1
33	25	PAOZZ	5310-00-741-2303	19207	7412303	.WASHER,FLAT FAUCET STEM	706,714,715	EA	1
33	26	PFOZZ		96906	MS35229-045	.SCREW	706,714,715	EA	1
33	27	XAOZZ		19207	8681890	.BODY	706,714,715	EA	1
33	28	PAOZZ	5305-00-182-9313	19207	8681877	.SCREW,SHOULDER	706,714,715	EA	1

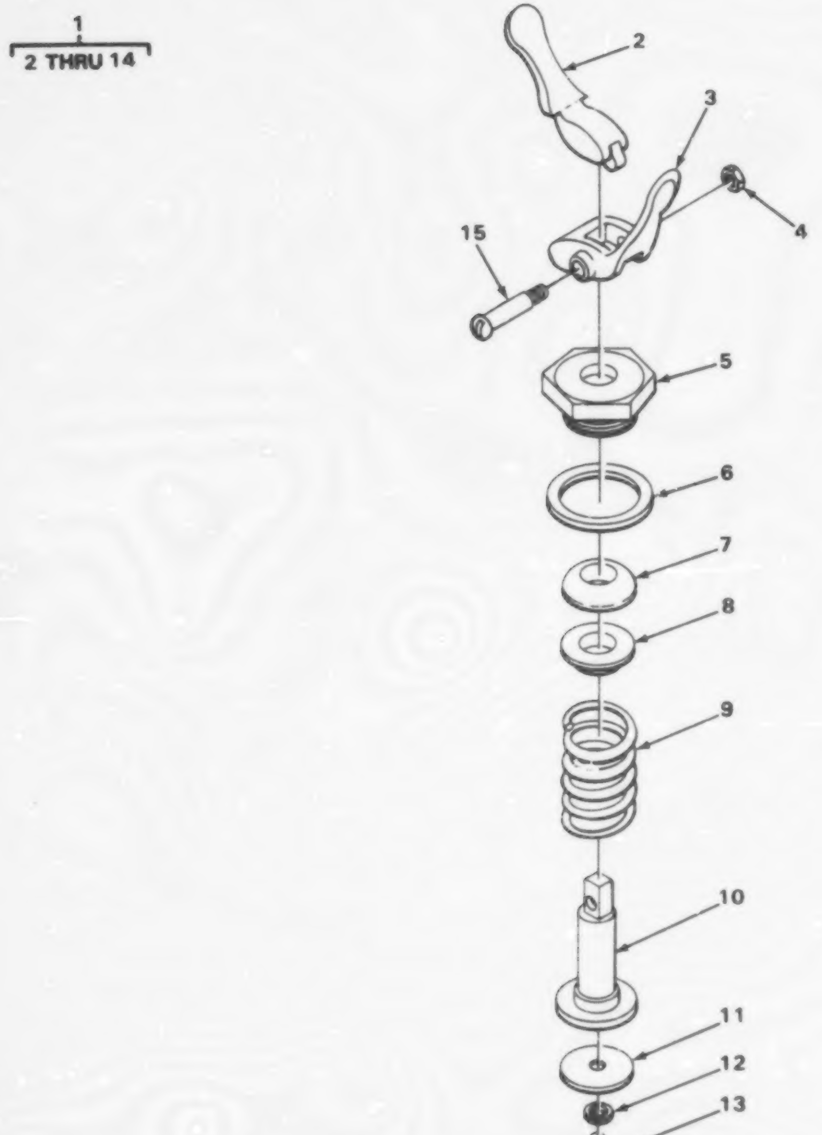
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FIGURE 34. FAUCET ASSEMBLY (M107A1, M107A2, M107A2C).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1811(CONT)			
34	1	PAOOO		19207	7412239	FAUCET,SINGLE WATER TANK	706,714,715	EA	1
34	2	PAOZZ	4510-00-318-8207	19207	8681887	.HANDLE,WATER TANK	706,714,715	EA	1
34	3	PAOZZ	4510-00-318-8208	19207	8681888	.HANDLE,WATER TANK	706,714,715	EA	1
34	4	XAOZZ		96906	MS35649-286	.NUT,PLAIN,HEXAGON	706,714,715	EA	1
34	5	XAOZZ		19207	8681893	.CENTERPIECE	706,714,715	EA	1
34	6	XAOZZ		19207	8681876	.GASKET	706,714,715	EA	1
34	7	PAOZZ	2540-00-741-2280	23705	A297940-6	.DISK,VALVE WATER FAUCET ASSEMBLIES	706,714,715	EA	1
34	8	XAOZZ		19207	8681884	.GLAND	706,714,715	EA	1
34	9	XAOZZ		19207	8681875	.SPRING	706,714,715	EA	1
34	10	XAOZZ		19207	8681886	.STEM	706,714,715	EA	1
34	11	PAOZZ	5310-00-741-2251	19207	7412251	.WASHER,FLAT WATER FAUCET ASSEMBLIES	706,714,715	EA	1
34	12	PAOZZ	5310-00-741-2252	19207	7412252	.WASHER,FLAT WATER FAUCET ASSEMBLIES	706,714,715	EA	1
34	13	PFOZZ		96906	MS35230-063	.SCREW	706,714,715	EA	1
34	14	XAOZZ		19207	8681892	.BODY	706,714,715	EA	1
34	15	PAOZZ	5305-00-182-9213	19207	8681877	.SCREW	706,714,715	EA	1

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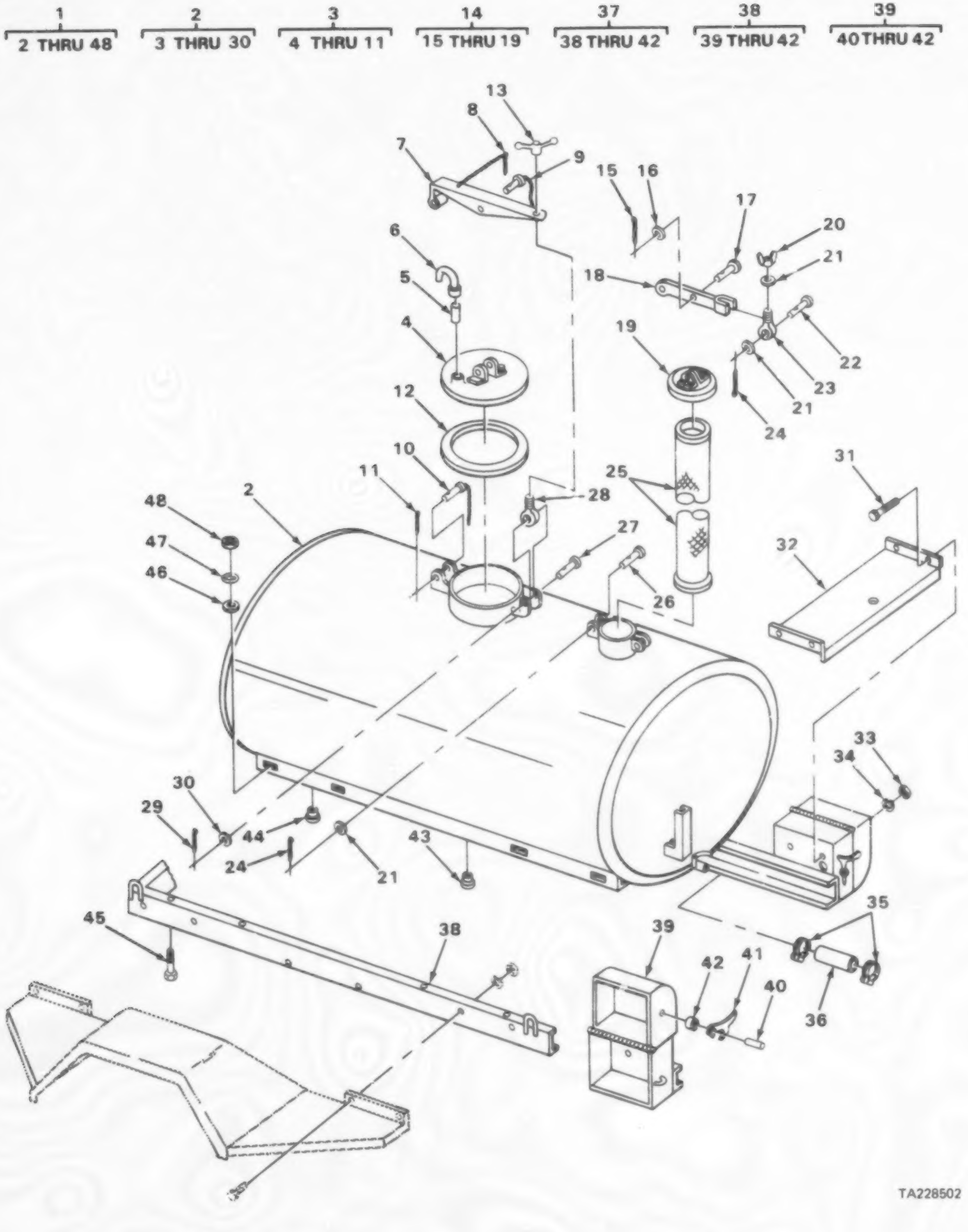
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FIGURE 35. WATER TANK, TANK FRAME, AND RELATED PARTS (M107A1, M107A2, M107A2C).

(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1811(CONT)			
35	1	XDFFF		19207	8384144	TANK AND FRAME ASSY	706,714,715	EA	1
35	2	PAFFF	4930-01-162-3855	19207	8384097	.TANK UNIT,LIQUID DI	706,714,715	EA	1
35	3	PFFFF	2510-00-177-9014	19207	7979710	..COVER AND HINGE ASS	706,714,715	EA	1
35	4	PAFZZ	2510-00-741-2233	19207	7412233	...COVER ASSEMBLY	706,714,715	EA	1
35	5	PAFZZ	4730-00-741-2249	19207	7412249	...NIPPLE,PIPE	706,714,715	EA	1
35	6	PAFZZ	2510-00-703-9760	19207	7039760	...BEND,TANK COVER,VEN	706,714,715	EA	1
35	7	PAFZZ	2510-00-741-2247	19207	7412247	...HINGE,WELDED WATER	706,714,715	EA	1
35	8	PAFZZ	5315-00-013-7258	96906	MS24665-497	...PIN,COTTER WATER TANK	706,714,715	EA	2
35	9	XDFZZ		19207	7412283	...PIN AND CHAIN ASSEM	706,714,715	EA	1
35	10	PAFZZ	4010-00-741-2295	19207	7412295	...CHAIN ASSY,SINGLE L	706,714,715	EA	1
35	11	PAFZZ	5315-00-842-3044	96906	MS24665-283	...PIN,COTTER	706,714,715	EA	1
35	12	PAFZZ	5330-00-741-2242	19207	7412242	..SEAL RUBBER SPECIAL	706,714,715	EA	1
35	13	PAFZZ	5310-00-741-2276	19207	7412276	..NUT,PLAIN,WING	706,714,715	EA	1
35	14	PAFFF	2510-00-741-2234	19207	7412234	..COVER ASSY,TANK TRU	706,714,715	EA	1
35	15	PAFZZ	5315-00-842-3044	96906	MS24665-283	...PIN,COTTER	706,714,715	EA	1
35	16	PAFZZ	5310-00-080-6004	96906	MS27183-14	...WASHER,FLAT	706,714,715	EA	1
35	17	PFFZZ	5315-00-741-2286	19207	7412286	...PIN,STRAIGHT,HEADED	706,714,715	EA	1
35	18	XAFZZ		19207	7979622	...HINGE ASSEMBLY	706,714,715	EA	1
35	19	XDFZZ		19207	7979660	...COVER ASSEMBLY	706,714,715	EA	1
35	20	PAFZZ	5310-00-889-2606	96906	MS35425-42	..NUT,PLAIN,WING	706,714,715	EA	1
35	21	PAOZZ	5310-00-080-6004	96906	MS27183-14	..WASHER,FLAT	706,714,715	EA	3
35	22	PFFZZ	5315-00-741-2285	19207	7412285	..PIN,STRAIGHT,HEADED WATER TANK SEDIMENT COVER	706,714,715	EA	1
35	23	PAFZZ	5306-00-937-2321	19207	7979634	..BOLT,EYE	706,714,715	EA	1
35	24	PAFZZ	5315-00-842-3044	96906	MS24665-283	..PIN,COTTER	706,714,715	EA	2
35	25	PAOZZ	4730-00-546-5898	21530	S384	..STRAINER ELEMENT,SE	706,714,715	EA	1
35	26	PFFZZ	5315-00-741-2286	19207	7412286	..PIN,STRAIGHT,HEADED WATER TANK	706,714,715	EA	1
35	27	PFFZZ	5315-00-741-2282	19207	7412282	..PIN,STRAIGHT,HE	706,714,715	EA	1
35	28	PAFZZ	5306-00-741-2228	19207	7412228	..BOLT,EYE	706,714,715	EA	1

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1811(CONT)			
35	29	PAFZZ	5315-00-016-7988	96906	MS24665-493	..PIN,COTTER	706,714,715	EA	1
35	30	PFFZZ	5310-00-809-5998	96906	MS27183-18	..WASHER,FLAT	706,714,715	EA	1
35	31	PFFZZ	5305-00-269-3234	96906	MS90727-58	.SCREW CAP HEXAGON	706,714,715	EA	4
35	32	PAFZZ	2540-00-040-2417	23705	321090	.PLATE	706,714,715	EA	1
35	33	PFFZZ	5310-00-732-0559	96906	MS51968-8	.NUT,PLAIN,HEXAGON	706,714,715	EA	4
35	34	PAOZZ	5310-01-130-9065	96906	MS35338-46	.WASHER,LOCK DRAWBAR	706,714,715	EA	4
35	35	PAFZZ	4730-00-909-8627	96906	MS35842-13	.CLAMP,HOSE	706,714,715	EA	2
35	36	PAFZZ	4720-01-095-0515	23705	319271	.HOSE,NONMETALLIC	706,714,715	EA	1
35	37	XDFFF		19207	8384143	.FRAME ASSEMBLY	706,714,715	EA	1
35	38	XDFFF		19207	8384113	..BOX AND FRAME ASSY	706,714,715	EA	1
35	38	XDFFF		19207	8384114	..BOX AND FRAME ASSY	706,714,715	EA	1
35	39	PAFFF	2540-00-420-4988	19207	8384106	...COVER ASSY	706,714,715	EA	1
35	40	XDFZZ		19207	8331226	....PIN, SHOULDER, HEAD LATCH,COVER STOWAGE	706,714, 715	EA	1
35	41	XAFZZ		19220	5710B	....HOOK LOCKING-LEVER	706,714,715	EA	1
35	42	PAFZZ	5365-01-158-6311	19207	8384102	....SPACER	706,714,715	EA	1
35	43	XDFZZ		19207	8735829	PLUG,PIPE	706,714,715	EA	1
35	44	PAFZZ	5340-00-537-2212	19207	8331543	.MOUNT,RESILIENT WATER TANK	706,714,715	EA	8
35	45	PFFZZ	5305-00-726-2553	96906	MS90727-166	SCREW,CAP,HEXAGON	706,714,715	EA	8
35	46	PAFZZ	5330-00-575-9791	19207	8331544	.PACKING WITH RETAIN WATER TANK	706,714,715	EA	8
35	47	PAFZZ	5340-00-472-1942	19207	8384130	.MOUNT,RESILIENT	706,714,715	EA	8
35	48	XDFZZ		19207	451027	.NUT,SELF LOCKING	706,714,715	EA	8

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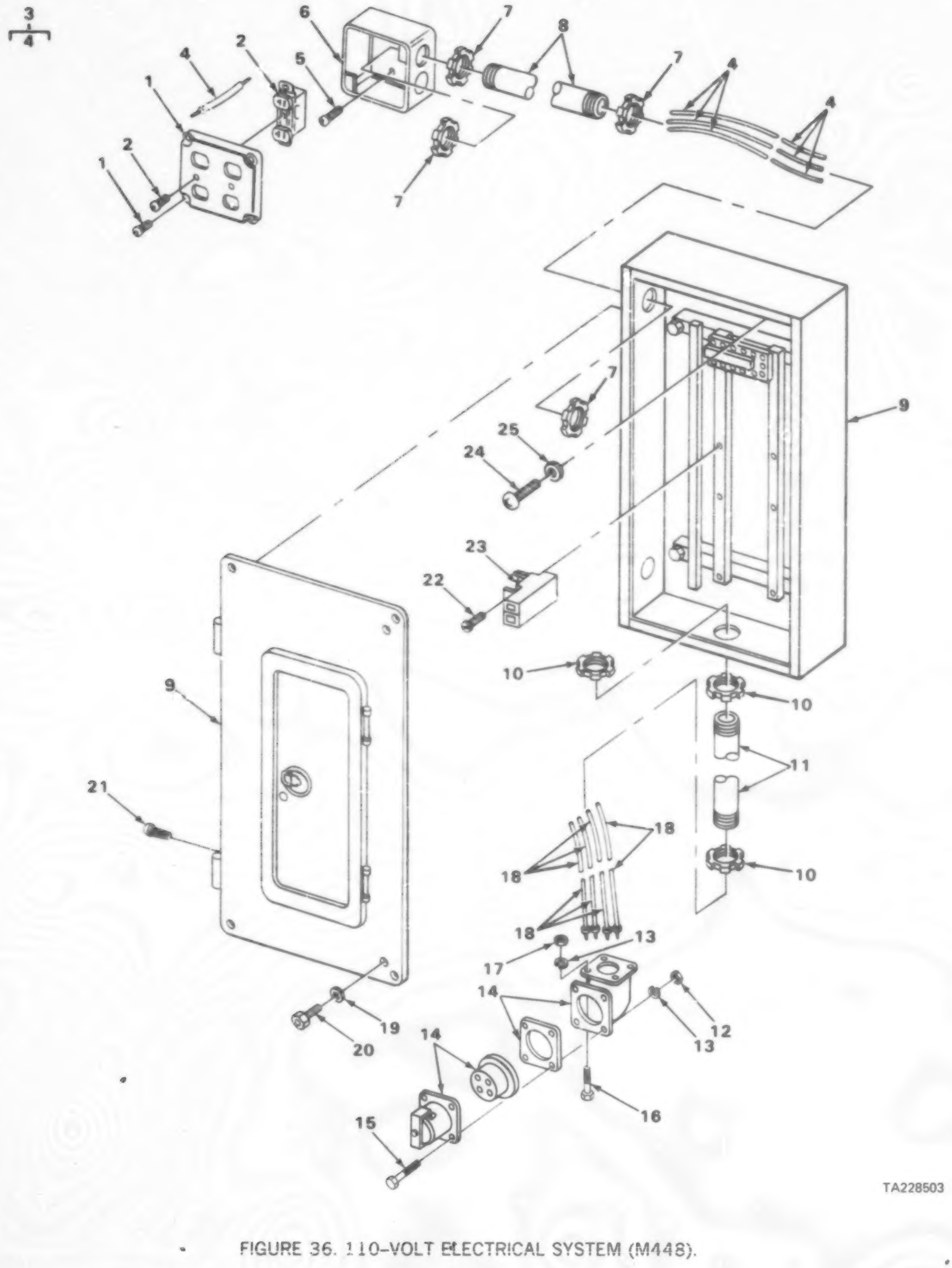
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FIGURE 36. 110–VOLT ELECTRICAL SYSTEM (M448).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812-SPECIAL PURPOSE BODIES			
36	1	XDOZZ		19207	7335512	COVER,JUNCTION BOX	701	EA	1
36	2	PAOZZ	5935-00-679-1519	19207	8342291	CONNECTOR	701	EA	2
36	3	XD000		19207	10885379	LEAD	701	EA	4
36	4	MOOZZ		19207	7056678-10	.CABLE MANUFACTURE FROM NSN 6145-00-705-6678	701	EA	1
36	5	PAOZZ	5306-00-225-8500	96906	MS90725-35	BOLT,MACHINE	701	EA	2
36	6	XDOZZ		19207	7335511	JUNCTION BOX	701	EA	1
36	7	XDOZZ		19207	7045791-2	BOX CONNECTOR,ELEC	701	EA	4
36	8	XDOZZ		19207	10922107	CONDUIT	701	EA	1
36	9	XDOZZ		19207	10922108	BOX	701	EA	1
36	10	PAOZZ	5975-00-100-8766	06542	FED-STD 156	BOX CONNECTOR,ELECT CONDUIT	701	EA	3
36	11	XDOZZ		19207	10885375	CONDUIT	701	EA	1
36	12	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT,PLAIN,HEXAGON	701	EA	4
36	13	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK	701	EA	8
36	14	PAOZZ	5935-00-770-8275	90129	X8110-3	CONNECTOR,RECEPTACL 110 VOLT ELECTRICAL SYSTEM	701	EA	1
36	15	PAOZZ	5305-00-068-0502	96906	MS90725-6	SCREW,CAP,HEXAGON H	701	EA	4
36	16	PFOZZ	5305-00-068-0514	96906	MS90727-7	SCREW,CAP,HEXAGON H	701	EA	4
36	17	PFOZZ	5310-00-768-0319	96906	MS51968-2	NUT PLAIN HEXAGON	701	EA	4
36	18	PAOZZ	2590-00-790-2298	19207	10885377	LEAD ASSEMBLY,ELECT 110 VOLT ELECTRICAL SYSTEM	701	EA	4
36	19	PAOZZ	5310-00-682-5631	19207	8666561	WASHER,PANEL FASTEN SCREW	701	EA	2
36	20	PAOZZ	5305-00-421-3986	19207	7336058	SETSCREW	701	EA	2
36	21	XDOZZ		19207	178434	SCREW,TAPPING,T	701	EA	4
36	22	PAOZZ	5305-00-984-6207	96906	MS35206-260	SCREW,MACHINE CIRCUIT BREAKER	701	EA	4
36	23	PAOZZ	5925-00-952-8641	52737	P120	CIRCUIT BREAKER 110 VOLT ELECTRICAL SYSTEM	701	EA	4
36	24	PAOZZ	5305-00-052-6922	96906	MS24629-58	SCREW,TAPPING,THREA	701	EA	2
36	25	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER,FLAT	701	EA	2

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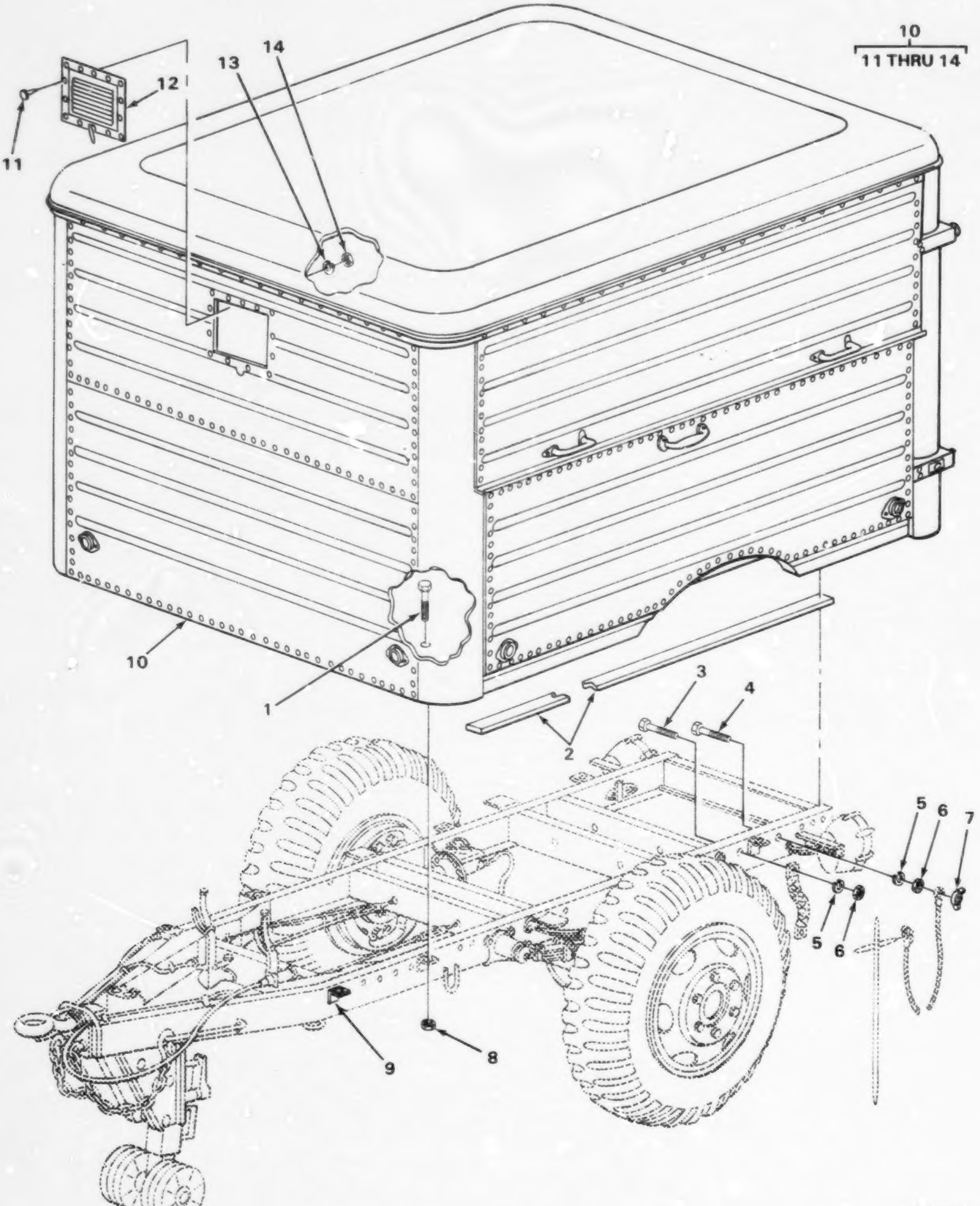
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FIGURE 37. VAN BODY ATTACHING HARDWARE (M448).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
37	1	PAOZZ	5305-00-042-6417	96906	MS90725-113	SCREW,CAP,HEXAGON H	701	EA	8
37	2	XDOZZ		19207	10885353	LINER	701	EA	2
37	3	PAOZZ	5305-00-942-2196	96906	MS18154-60	SCREW,CAP,HEXAGON H	701	EA	1
37	4	PAOZZ	5305-00-269-3213	96906	MS90725-62	SCREW,CAP,HEXAGON H	701	EA	1
37	5	PAOZZ	5310-00-595-7237	96906	MS35333-42	WASHER,LOCK	701	EA	2
37	6	PAOZZ	5310-00-732-0558	96906	MS51967-8	NUT,PLAIN,HEXAGON	701	EA	2
37	7	PAOZZ	5310-00-889-2606	96906	MS35425-42	NUT,PLAIN,WING	701	EA	1
37	8	PAOZZ	5310-00-225-6993	96906	MS51922-33	NUT,SELF-LOCKING HE	701	EA	8
37	9	XDOZZ		19207	10885351	ANGLE	701	EA	8
37	10	XDFFF		19207	10885350	BODY ASSEMBLY	701	EA	1
37	11	PFOZZ	5305-00-990-6444	96906	MS35207-261	.SCREW,MACHINE	701	EA	13
37	12	XDOZZ		19207	10923514	.VENTILATOR	701	EA	1
37	13	PFOZZ	5310-00-045-3296	96906	MS35338-43	.WASHER,LOCK	701	EA	13
37	14	PAOZZ	5310-00-934-9751	96906	MS35650-302	.NUT,PLAIN,HEXAG	701	EA	13

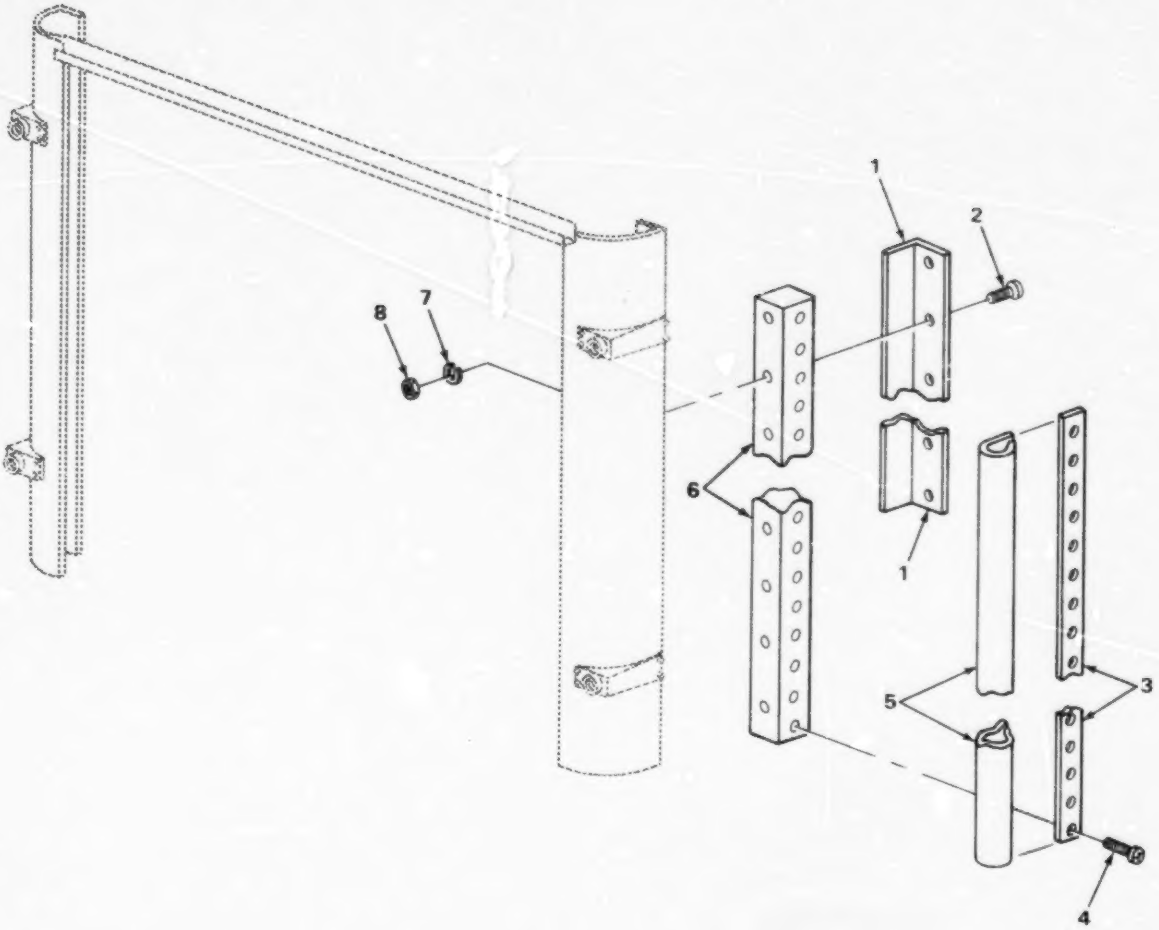

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FIGURE 38. VAN BODY REAR DOOR SEAL ASSEMBLY (M448).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
38	1	XDOZZ		19207	10885355	CAPPING	701	EA	4
38	2	PAOZZ	5305-00-988-1727	96906	MS35206-283	SCREW,MACHINE	701	EA	16
38	3	XDOZZ		19207	10885358	RETAINER	701	EA	4
38	4	PFOZZ	5305-00-432-4172	96906	MS51861-37	SCREW,TAPPING,T	701	EA	36
38	5	PAOZZ	2540-00-924-0315	19207	7534653	SEAL,REARDOOR	701	EA	4
38	6	XDOZZ		19207	10885354	FILLER	701	EA	4
38	7	PAOZZ	5310-00-550-1130	96906	MS35333-40	WASHER,LOCK	701	EA	16
38	8	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT,PLAIN,HEXAGON	701	EA	16

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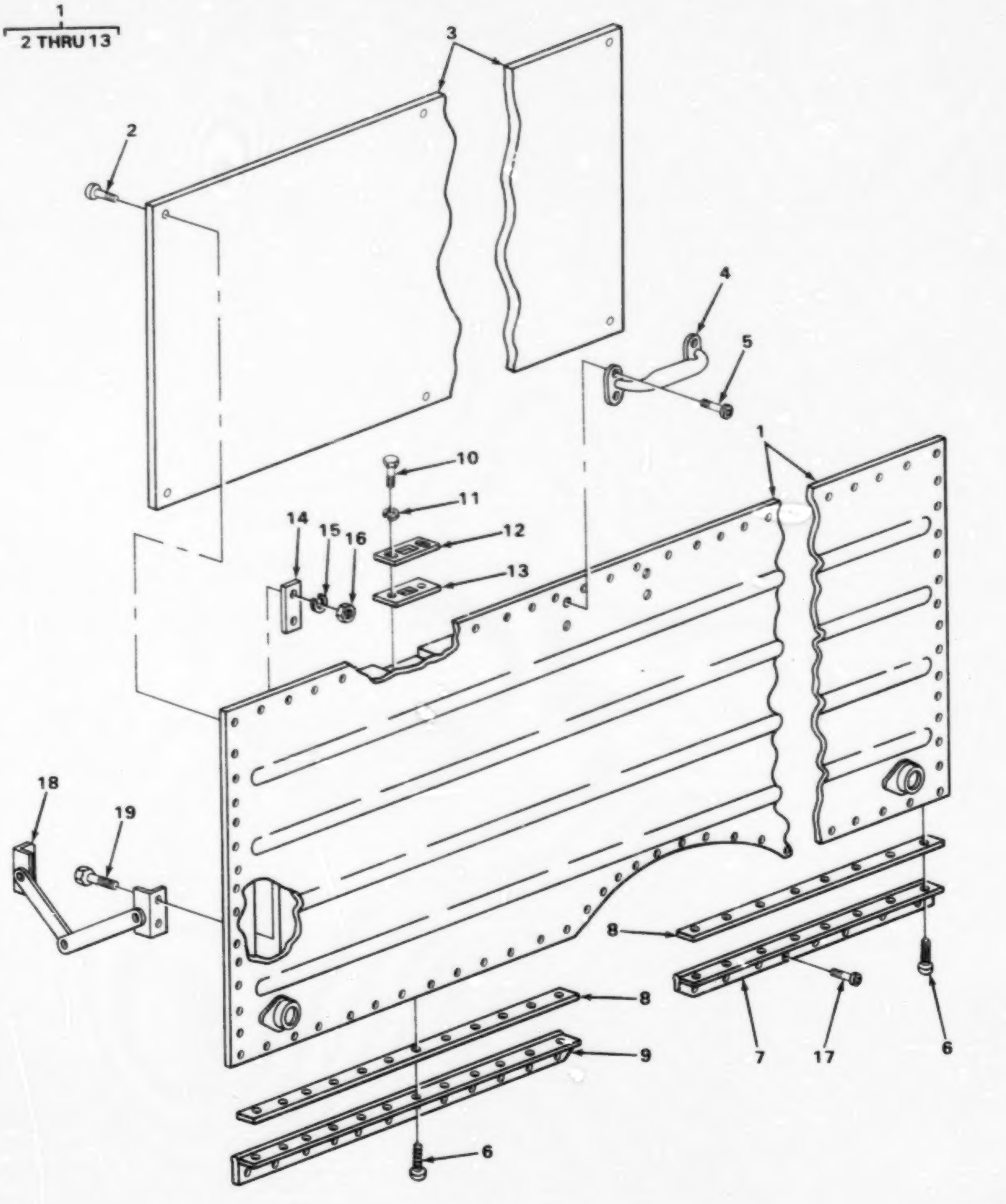
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FIGURE 39. VAN BODY DOOR ASSEMBLY (M448).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
39	1	XD000		19207	10885238	.DOOR ASSEMBLY LEFT COMPONENTS SAME AS P/N 10885239, EXCEPT WHERE INDIVIDUAL COMPONENTS ARE ANNOTATED	701	EA	1
39	1	XD000		19207	10885239	.DOOR ASSEMBLY RIGHT	701	EA	1
39	2	PAOZZ	5305-00-988-1727	96906	MS35206-283	..SCREW,MACHINE	701	EA	6
39	3	XDOZZ		19207	10885292	..PANEL	701	EA	1
39	4	XDOZZ		19207	7003071	..HANDLE	701	EA	1
39	5	XDOZZ		19207	144897	..SCREW	701	EA	4
39	6	PAOZZ	5305-00-959-4159	96906	MS24617-53	..SCREW,TAPPING,THREA	701	EA	21
39	7	XDOZZ		19207	10885244	..HINGE RIGHT USE WITH P/N 10885239	701	EA	1
39	7	XDOZZ		19207	10885293	..HINGE LEFT USE WITH P/N 10885238	701	EA	1
39	8	MOOZZ		19207	4518080-2	..RUBBER STRIP MANUFACTURE FROM NSN 9320-00-451-8080	701	EA	2
39	9	XDOZZ		19207	10885388	..HINGE RIGHT USE WITH P/N 10885239	701	EA	1
39	9	XDOZZ		19207	10885296	..HINGE LEFT USE WITH P/N 10885238	701	EA	1
39	10	PAOZZ	5306-00-225-8496	96906	MS90725-31	..BOLT MACHINE	701	EA	2
39	11	PAOZZ	5310-00-167-0721	96906	MS35333-41	..WASHER,LOCK	701	EA	2
39	12	XDOZZ		19207	7018991	..PLATE TOP	701	EA	1
39	13	XDOZZ		19207	7018992	..PLATE BOTTOM	701	EA	1
39	14	XDOZZ		19207	10929947	.PLATE	701	EA	4
39	15	PAOZZ	5310-00-407-9566	96906	MS35338-45	.WASHER,LOCK	701	EA	16
39	16	PAOZZ	5310-00-880-7744	96906	MS51967-5	.NUT,PLAIN,HEXAGON	701	EA	16
39	17	PAOZZ	5305-00-959-4159	96906	MS24617-53	.SCREW,TAPPING,THREA LEFT AND RIGHT	701	EA	40
39	18	XDOZZ		19207	10865360	.FOLDING ARM ASSEMBL	701	EA	4
39	19	PAOZZ	5306-00-225-8497	96906	MS90725-32	.BOLT,MACHINE	701	EA	16

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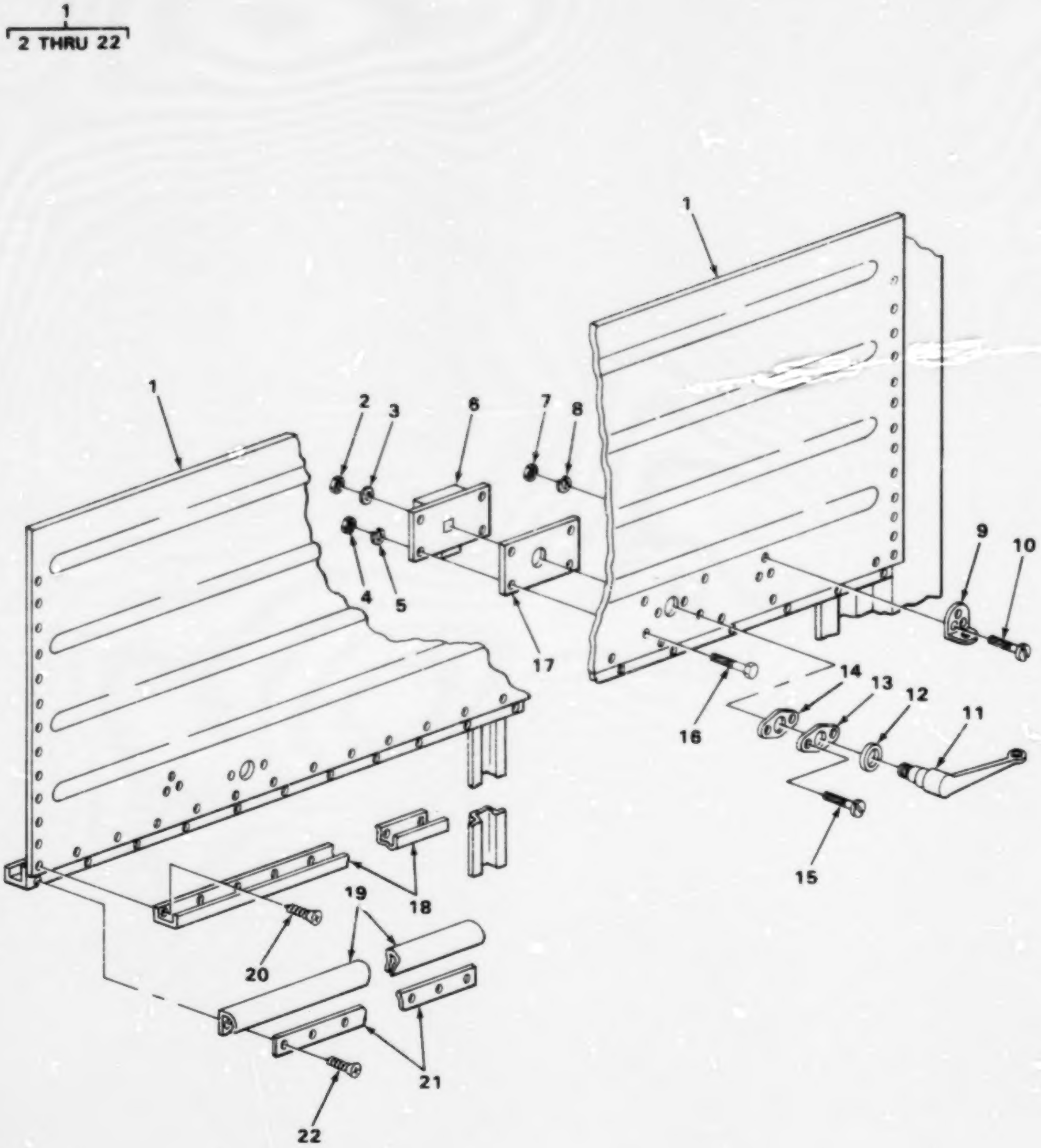
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FIGURE 40. VAN BODY SIDE ASSEMBLY (M448).

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(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
40	1	XDOOC		19207	10885340	SIDE ASSEMBLY PANEL	701	EA	2
40	2	PAOZZ	5310-00-488-3889	96906	MS51943-39	.NUT,SELF-LOCKING,HE	701	EA	2
40	3	PFOZZ	5310-00-809-3079	96906	MS27183-19	.WASHER,FLAT	701	EA	2
40	4	PFOZZ	5310-00-880-7746	96906	MS51968-5	.NUT,PLAIN,HEXAGON	701	EA	8
40	5	PFOZZ	5310-00-407-9566	96906	MS35338-45	.WASHER,LOCK	701	EA	8
40	6	XDOZZ		19207	10885356	.LOCK	701	EA	2
40	7	PFOZZ	5310-00-934-9758	96906	MS35649-202	..NUT,PLAIN,HEXAGON	701	EA	6
40	8	PFOZZ	5310-00-045-3296	96906	MS35338-43	..WASHER,LOCK	701	EA	6
40	9	XDOZZ		19207	10885237	..BRACKET	701	EA	2
40	10	PFOZZ	5305-00-958-5471	96906	MS35190-273	..SCREW,MACHINE	701	EA	6
40	11	XDOZZ		19207	10900796	..HANDLE	701	EA	2
40	12	PAOZZ	5330-00-522-8544	21450	582826	..GASKET	701	EA	2
40	13	PAOZZ	5340-00-231-7428	19207	8698433	..PLATE HANDLE	701	EA	2
40	14	PAOZZ	5330-00-415-1488	19207	8380431	..GASKET	701	EA	2
40	15	PFOZZ		96906	MS24649-35	..SCREW	701	EA	4
40	16	PFOZZ		96906	MS35292-35	..SCREW	701	EA	8
40	17	XDOZZ		19207	10885346	..SPACER	701	EA	2
40	18	XDOZZ		19207	10885347	..MOULDING	701	EA	1
40	19	XDOZZ		19207	754653	..SEAL	701	EA	1
40	20	PAOZZ	5305-00-057-7165	96906	MS24615-25	..SCREW,TAPPING,THREA	701	EA	28
40	21	XDOZZ		19207	10885357	..RETAINER	701	EA	1
40	22	PAOZZ	5305-00-432-4170	96906	MS51861-35	..SCREW,TAPPING,THREA	701	EA	28

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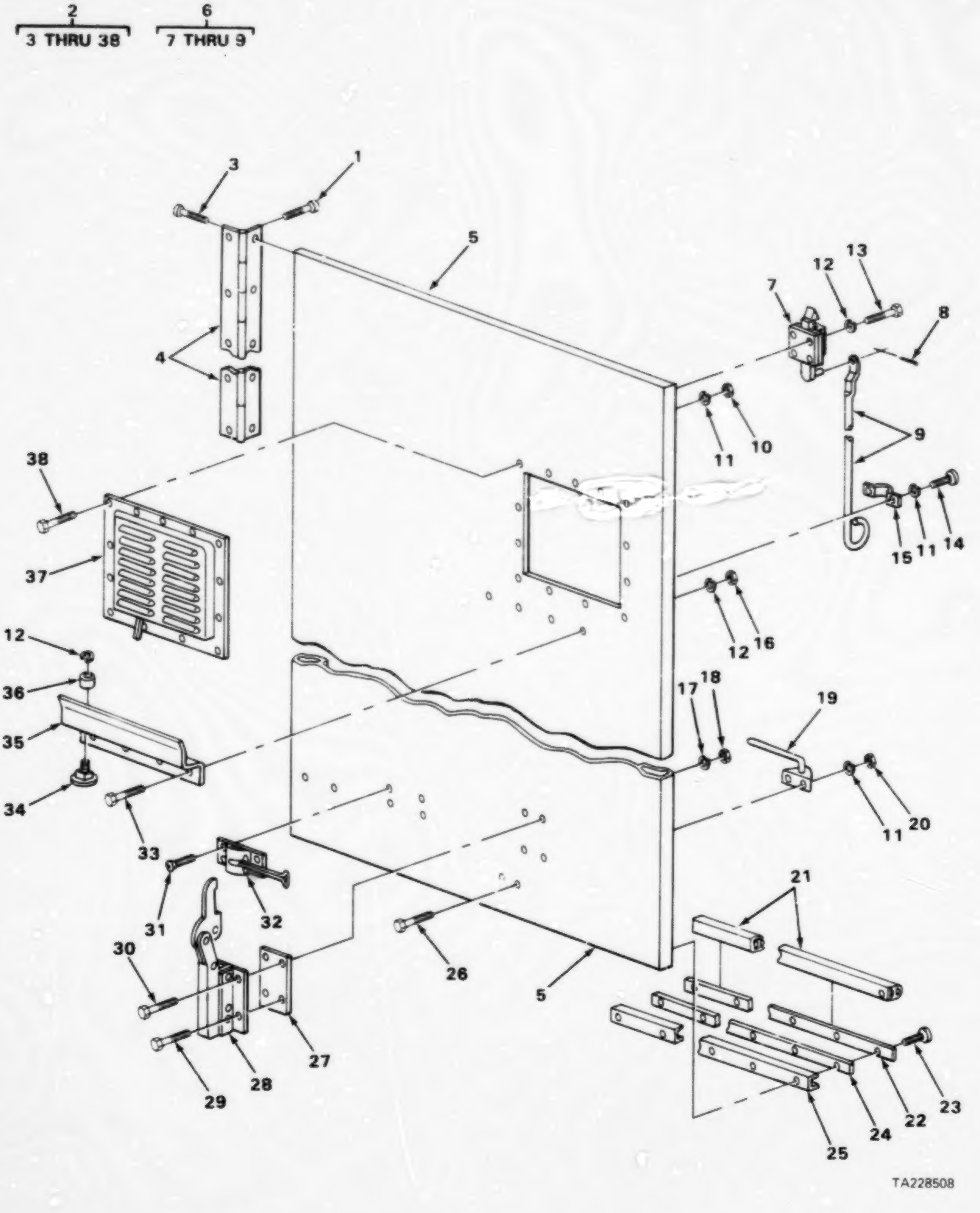
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FIGURE 41. VAN BODY LEFT DOOR ASSEMBLY (M448).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
41	1	PAOZZ	5305-00-959-4159	96906	MS24617-53	SCREW,TAPPING,THREA	701	EA	14
41	2	XD000		19207	10885207	.DOOR ASSEMBLY LEFT	701	EA	1
41	3	PAOZZ	5305-00-052-6921	96906	MS24629-57	..SCREW,TAPPING,THREA	701	EA	14
41	4	XDOZZ		19207	10885225	..HINGE	701	EA	1
41	5	XDOZZ		19207	10885208	..DOOR	701	EA	1
41	6	PA000	2540-00-179-5583	19207	7264735	..LATCH ASSY	701	EA	1
41	7	PFOZZ	5340-00-466-1978	19220	5607-51	...LATCH,RIM	701	EA	1
41	8	PAOZZ	5315-00-839-5820	96906	MS24665-134	...PIN,COTTER	701	EA	1
41	9	PFOZZ	5340-00-177-7853	19207	10871578	...CONTROL,ROD	701	EA	1
41	10	PAOZZ	5310-00-934-9751	96906	MS35650-302	..NUT,PLAIN,HEXAGON	701	EA	13
41	11	PAOZZ	5310-00-045-3296	96906	MS35338-43	..WASHER,LOCK	701	EA	17
41	12	PAOZZ	5310-00-582-5965	96906	MS35338-44	..WASHER,LOCK	701	EA	10
41	13	PAOZZ	5305-00-267-8972	96906	MS90726-1	..SCREW,CAP,HEXAGON H	701	EA	4
41	14	PAOZZ	5305-00-990-6444	96906	MS35207-261	..SCREW,MACHINE	701	EA	2
41	15	PAOZZ	5340-00-389-0318	19207	7264634	..STRAP,RETAINING	701	EA	1
41	16	PAOZZ	5310-00-768-0319	96906	MS51968-2	..NUT,PLAIN,HEXAGON	701	EA	4
41	17	PAOZZ	5310-00-407-9566	96906	MS35338-45	..WASHER,LOCK	701	EA	4
41	18	PAOZZ	5310-00-880-7746	96906	MS51968-5	..NUT,PLAIN,HEXAGON	701	EA	2
41	19	XDOZZ		19207	10885211	..HOLDER ASSEMBLY REAR DOOR	701	EA	1
41	20	PAOZZ	5310-00-934-9758	96906	MS35649-202	..NUT,PLAIN,HEXAGON	701	EA	2
41	21	PAOZZ	2540-00-924-0315	19207	7534653	..SEAL,REARDOOR	701	EA	1
41	22	XDOZZ		19207	10885219	..RETAINER	701	EA	1
41	23	PFOZZ	5305-00-432-4172	96906	MS51861-37	..SCREW,TAPPING,THREA	701	EA	10
41	24	XDOZZ		19207	10885227	..SPACER	701	EA	1
41	25	XDOZZ		19207	10885220	..CHANNEL	701	EA	1
41	26	PAOZZ	5305-00-984-6212	96906	MS35206-265	..SCREW,MACHINE	701	EA	2
41	27	XDOZZ		19207	10929951-1	..PAD	701	EA	2
41	28	PAOZZ	2540-00-231-0200	19207	7084828	..CLAMP VAN LADDER MO	701	EA	1
41	29	PAOZZ	5305-00-225-9092	96906	MS90726-37	..SCREW,CAP,HEXAGON	701	EA	2

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
41	30	PAOZZ	5306-00-051-4077	96906	MS90727-35	..BOLT,MACHINE	701	EA	2
41	31	PAOZZ	5305-00-879-7941	96906	MS24617-31	..SCREW,TAPPING,THREA	701	EA	4
41	32	XDOZZ		19207	7335509	..LATCH	701	EA	1
41	33	PAOZZ	5305-00-068-0512	96906	MS90727-4	..SCREW,CAP,HEXAGON H	701	EA	4
41	34	PAOZZ	5306-00-027-0722	96906	MS35751-19	..BOLT,SQUARE NECK	701	EA	2
41	35	PAOZZ	2510-00-231-7444	19207	8759465	..RACK ASSEMBLY REAR	701	EA	1
41	36	PAOZZ	5340-00-766-6336	19207	7535620	..BUMPER,RUBBER LEFT	701	EA	2
41	37	XDOZZ		13207	10923514	..VENTILATOR	701	EA	1
41	38	PFOZZ		96906	MS35207-26	..SCREW,MACHINE	701	EA	13

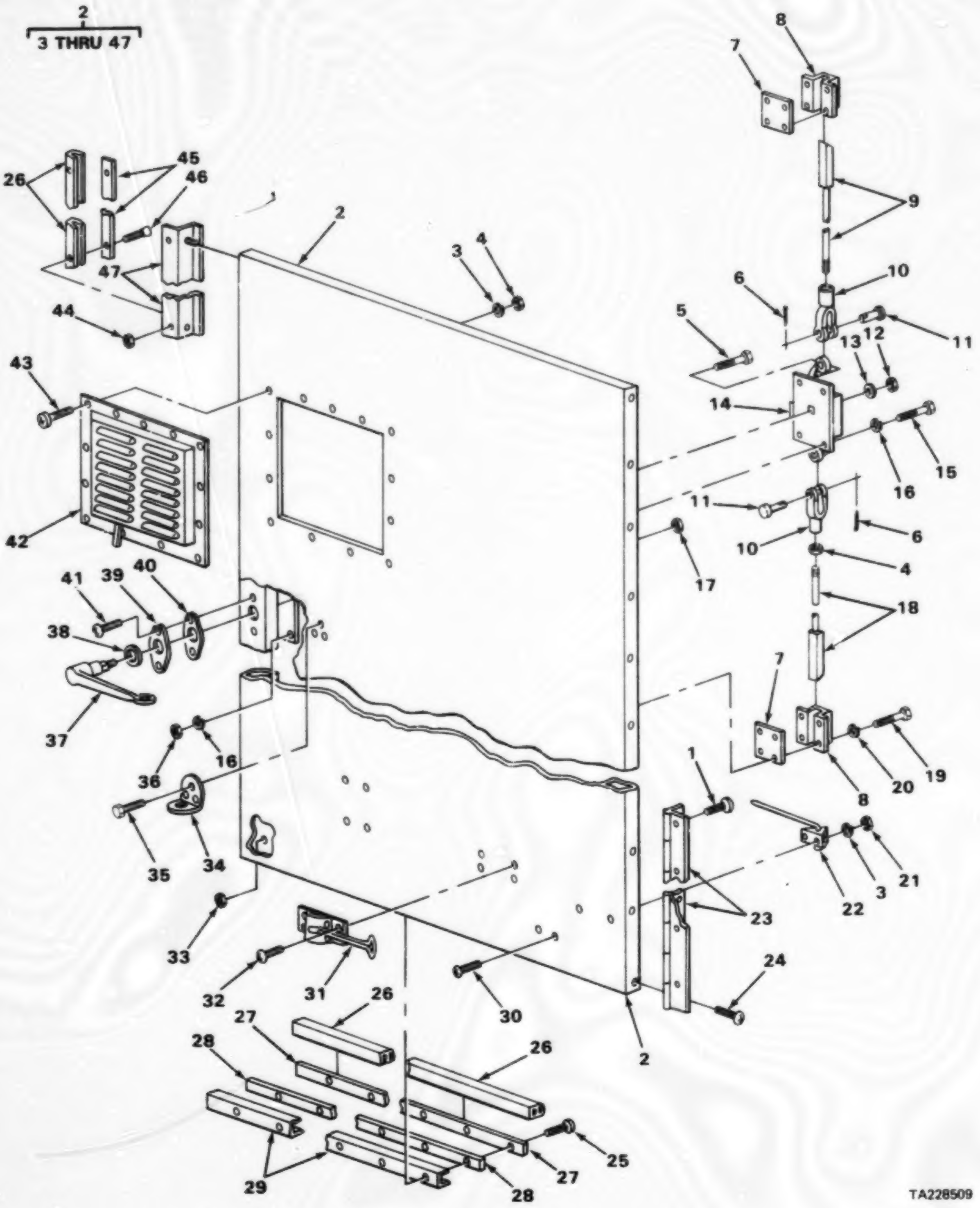
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FIGURE 42. VAN BODY RIGHT DOOR ASSEMBLY (M448).

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
42	1	PAOZZ	5305-00-959-4159	96906	MS24617-53	SCREW,TAPPING,THREA	701	EA	14
42	2	XDOOO		19207	10885221	.DOOR ASSEMBLY RIGHT	701	EA	1
42	3	PAOZZ	5310-00-045-3296	96906	MS35338-43	..WASHER,LOCK	701	EA	15
42	4	PAOZZ	5310-00-934-9751	96906	MS35650-302	..NUT,PLAIN,HEXAGON	701	EA	13
42	5	PAOZZ	5306-00-226-4822	96906	MS90728-29	..BOLT,MACHINE	701	EA	2
42	6	PAOZZ	5315-00-839-5822	96906	MS24665-353	..PIN,COTTER	701	EA	2
42	7	XDOZZ		19207	10922097	..SHIM	701	EA	2
42	8	XDOZZ		19207	8380496	..GUIDE ASSEMBLY	701	EA	2
42	9	XDOZZ		19207	10885228	..BAR	701	EA	1
42	10	PAOZZ	5340-00-177-3957	96906	MS35812-11	..CLEVIS,ROD END	701	EA	2
42	11	PAOZZ	5315-00-842-3154	96906	MS35810-36	..PIN,STRAIGHT,HEADED	701	EA	2
42	12	PAOZZ	5310-00-225-6993	96906	MS51922-33	..NUT,SELF-LOCKING,HE	701	EA	1
42	13	PAOZZ	5310-00-809-3073	96906	MS27183-19	..WASHER,FLAT	701	EA	1
42	14	PAOZZ	5340-00-679-1496	71843	2392A	..LATCH,MORTISE	701	EA	1
42	15	PAOZZ	5306-00-225-8496	96906	MS90725-35	..BOLT,MACHINE	701	EA	2
42	16	PAOZZ	5310-00-407-9566	96906	MS35338-45	..WASHER,LOCK	701	EA	4
42	17	PAOZZ	5310-00-934-9757	96906	MS35649-282	..NUT,PLAIN,HEXAGON	701	EA	3
42	18	XDOZZ		19207	10885229	..BAR	701	EA	1
42	19	PAOZZ	5305-00-068-0502	96906	MS90725-6	..SCREW,CAP,HEXAGON H	701	EA	8
42	20	PAOZZ	5310-00-582-5965	96906	MS35338-44	..WASHER,LOCK	701	EA	8
42	21	PAOZZ	5310-00-934-9758	96906	MS35649-202	..NUT,PLAIN,HEXAGON	701	EA	2
42	22	XDOZZ		19207	10885211	..HOLDER ASSEMBLY	701	EA	1
42	23	XDOZZ		19207	10885225	..HINGE	701	EA	1
42	24	PAOZZ	5305-00-052-6921	96906	MS24629-57	..SCREW,TAPPING,THREA	701	EA	14
42	25	PFOZZ	5305-00-432-4172	96906	MS51861-37	..SCREW,TAPPING,THREA	701	EA	10
42	26	PAOZZ	2540-00-924-0315	19207	7534653	..SEAL REARDOOR	701	EA	2
42	27	XDOZZ		19207	10885219	..RETAINER	701	EA	1
42	28	XDOZZ		19207	10885227	..SPACER	701	EA	1
42	29	XDOZZ		19207	10885220	..CHANNEL	701	EA	1

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(1) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
42	30	PAOZZ	5305-00-984-6212	96906	MS35206-265	..SCREW,MACHINE	701	EA	2
42	31	XDOZZ		19207	10885282	..LATCH	701	EA	1
42	32	PAOZZ	5305-00-855-0965	96906	MS24629-38	..SCREW,TAPPING,THREA	701	EA	4
42	33	PAOZZ	5310-00-761-6882	96906	MS51967-2	..NUT,PLAIN,HEXAGON	701	EA	8
42	34	XDOZZ		19207	10885237	..BRACKET	701	EA	1
42	35	PAOZZ	5305-00-059-4568	96906	MS35190-253	..SCREW,MACHINE	701	EA	3
42	36	PAOZZ	5310-00-880-7744	96906	MS51967-5	..NUT,PLAIN,HEXAGON	701	EA	2
42	37	XDOZZ		19207	10900797	..HANDLE	701	EA	1
42	38	PFOZZ	5330-00-522-8544	21450	582826	..RING	701	EA	1
42	39	PAOZZ	5340-00-231-7428	19207	8698433	..PLATE HANDLE	701	EA	1
42	40	PAOZZ	5330-00-415-1488	19207	8380431	..GASKET	701	EA	1
42	41	PAOZZ	5305-00-855-0960	96906	MS24629-36	..SCREW,TAPPING,THREA	701	EA	2
42	42	XDOZZ		19207	10923514	..VENTILATOR	701	EA	1
42	43	PAOZZ	5305-00-990-6444	96906	MS35207-261	..SCREW,MACHINE	701	EA	13
42	44	PFOZZ	5310-00-934-9754	96906	MS35650-382	..NUT,PLAIN,HEXAGON	701	EA	16
42	45	XDOZZ		19207	10885218	..RETAINER PLATE	701	EA	1
42	46	PFOZZ		96906	MS35226-42	..SCREW	701	EA	16
42	47	XDOZZ		19207	10885231	..SEAL CHANNEL	701	EA	1

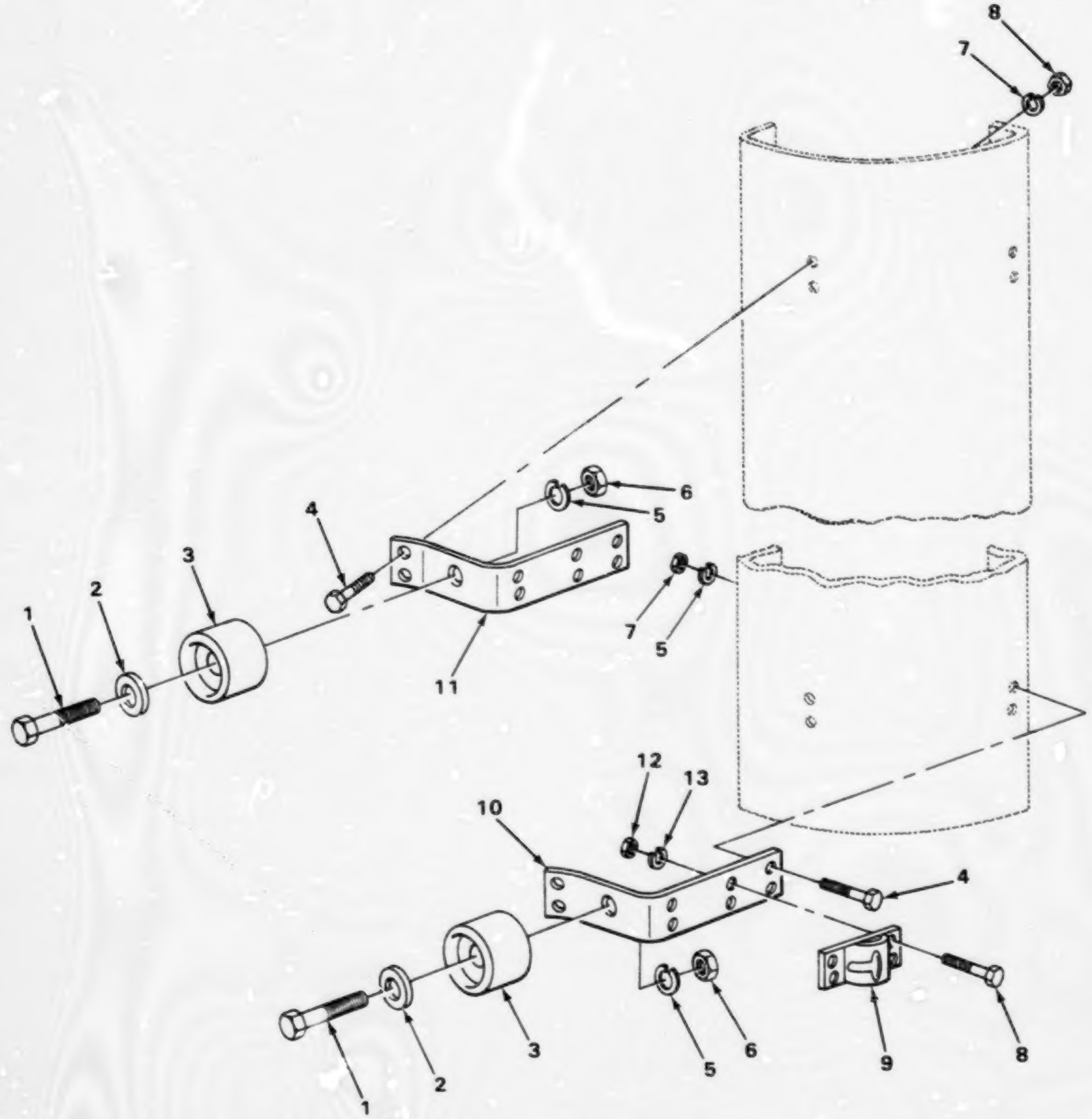
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FIGURE 43. VAN BODY BRACKET ASSEMBLY (M448).

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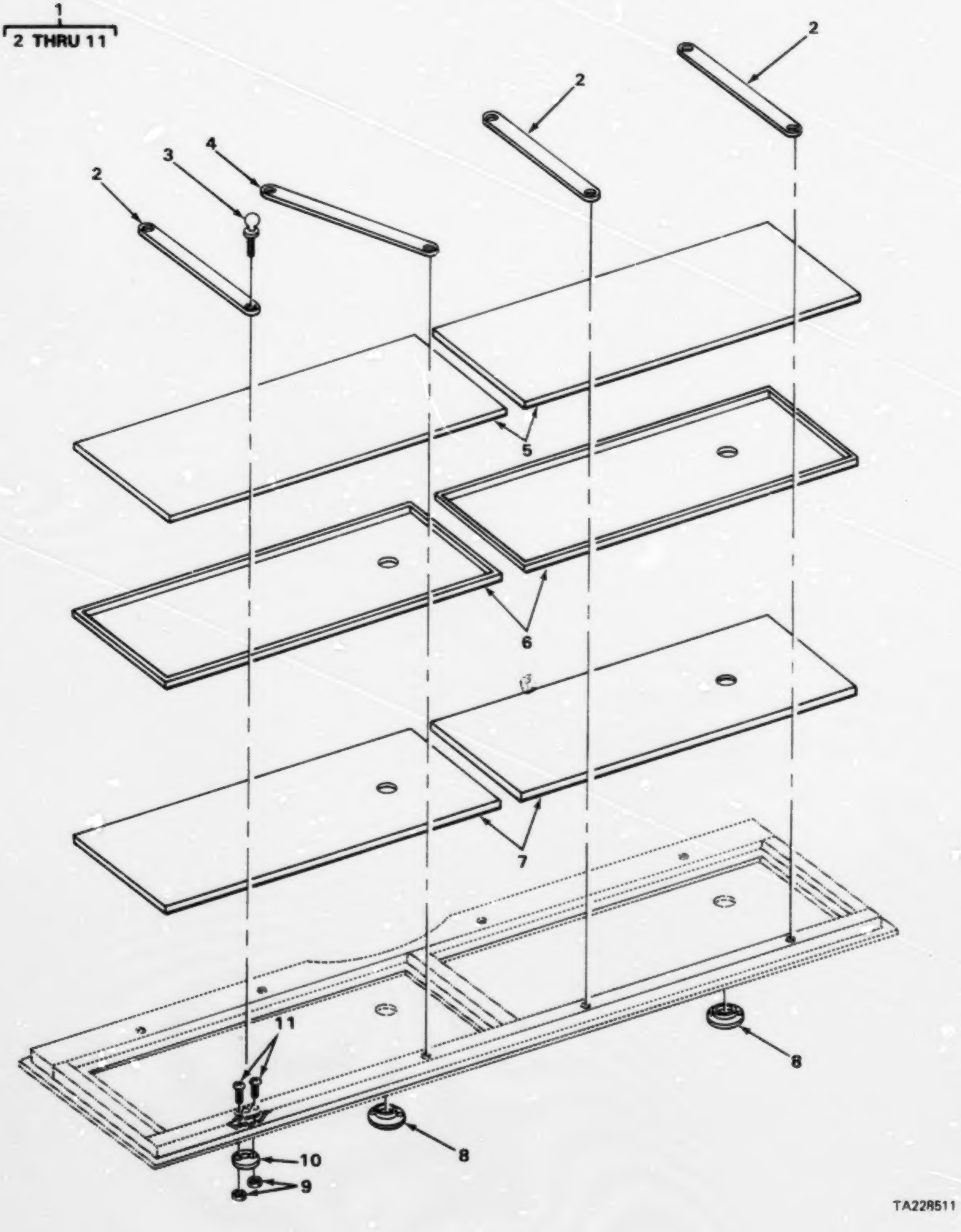
(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
43	1	PFOZZ		96906	MS35291-41	SCREW	701	EA	4
43	2	PAOZZ	5310-00-087-7493	96906	MS27183-13	WASHER,FLAT	701	EA	4
43	3	PAOZZ	5340-00-766-3330	19207	7535643	BUMPER,RUBBER VAN B	701	EA	4
43	4	PAOZZ	5306-00-225-8498	96906	MS90725-33	BOLT,MACHINE	701	EA	16
43	5	PFOZZ	5310-00-407-9566	96906	MS35338-45	WASHER,LOCK	701	EA	20
43	6	PAOZZ	5310-00-880-7744	96906	MS51967-5	NUT,PLAIN,HEXAGON	701	EA	4
43	7	PFOZZ		96906	MS61967-5	NUT	701	EA	16
43	8	PAOZZ	5305-00-416-6297	96906	MS35226-64	SCREW,MACHINE	701	EA	8
43	9	XDOZZ		19207	10885381	CLIP	701	EA	2
43	10	XDOZZ		19207	10885320	BRACKET	701	EA	2
43	11	XDOZZ		19207	10885321	BRACKET	701	EA	2
43	12	PAOZZ	5310-00-934-9751	96906	MS35650-302	NUT,PLAIN,HEXAGON	701	EA	8
43	13	PFOZZ	5310-00-045-3296	96906	MS35338-43	WASHER,LOCK	701	EA	8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TA228511

FIGURE 44. LOWER SIDE DOOR ASSEMBLY BATTERY SHOP VAN (M448).

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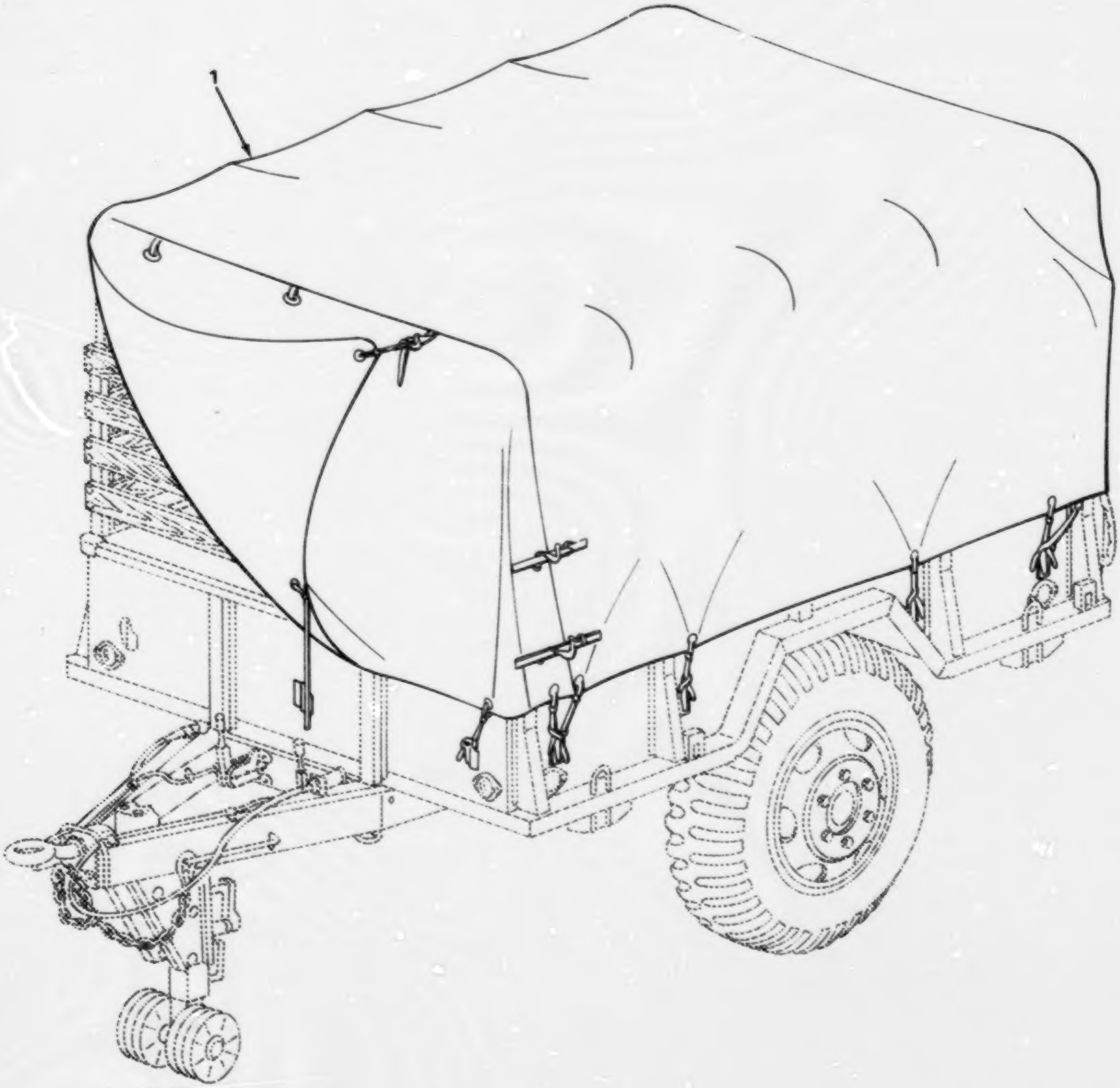
(1) ILLUS-TRATION (a) FIG. NO.	(1) ILLUS-TRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						1812(CONT)			
44	1	XDOOO		19207	10885392	DOOR,BATTERY ASSEMB	701	EA	2
44	2	XAOZZ		19207	10885398	..BAND	701	EA	3
44	3	PAOZZ	5305-00-819-7024	19207	10885400	..THUMBSCREW SIDE DOOR	701	EA	8
44	4	XAOZZ		19207	10885399	..BAND	701	EA	1
44	5	XAOZZ		19207	10885397	..COVER	701	EA	2
44	6	XAOZZ		19207	10885393	..PAN	701	EA	2
44	7	XAOZZ		19207	10885396	..LINER	701	EA	2
44	8	PAOZZ	2910-00-141-9758	96906	MS35645-1	..CAP,FILLER OPENING BATTERY DOOR DRAIN	701	EA	2
44	9	PAOZZ	5310-00-934-9755	96906	MS35650-362	..NUT,PLAIN,HEXAGON	701	EA	16
44	10	PAOZZ	5310-00-885-7734	94222	17-10015-13	..NUT,SHEET SPRING	701	EA	8
44	11	PAOZZ	5305-00-984-7356	96906	MS35191-239	..SCREW,MACHINE SIDE DOOR	701	EA	16

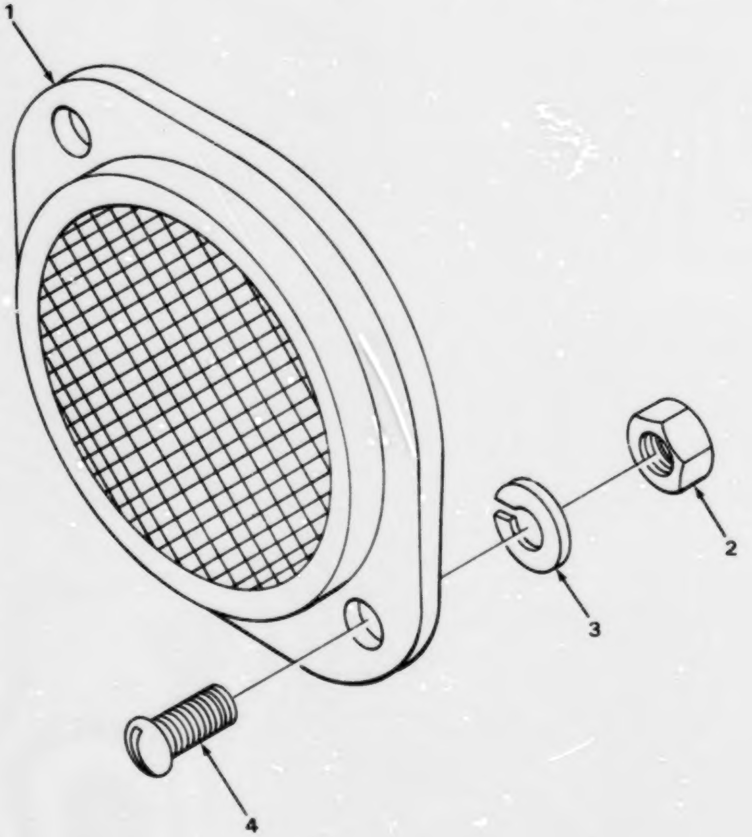


TA228512

FIGURE 45. PAULIN (M105A2C, M105A1, M105A2).

346

(1) ILLUS-TRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 22-BODY AND CHASSIS ACCESSORY ITEMS 2201-CANVAS			
45	1	PA000	2540-00-205-0603	19207	7979840	COVER,FITTED,VEHICU BODY....................	698,704,713	EA	1



TA228513

FIGURE 46. REFLECTORS (M105A2C, M448, M105A2).

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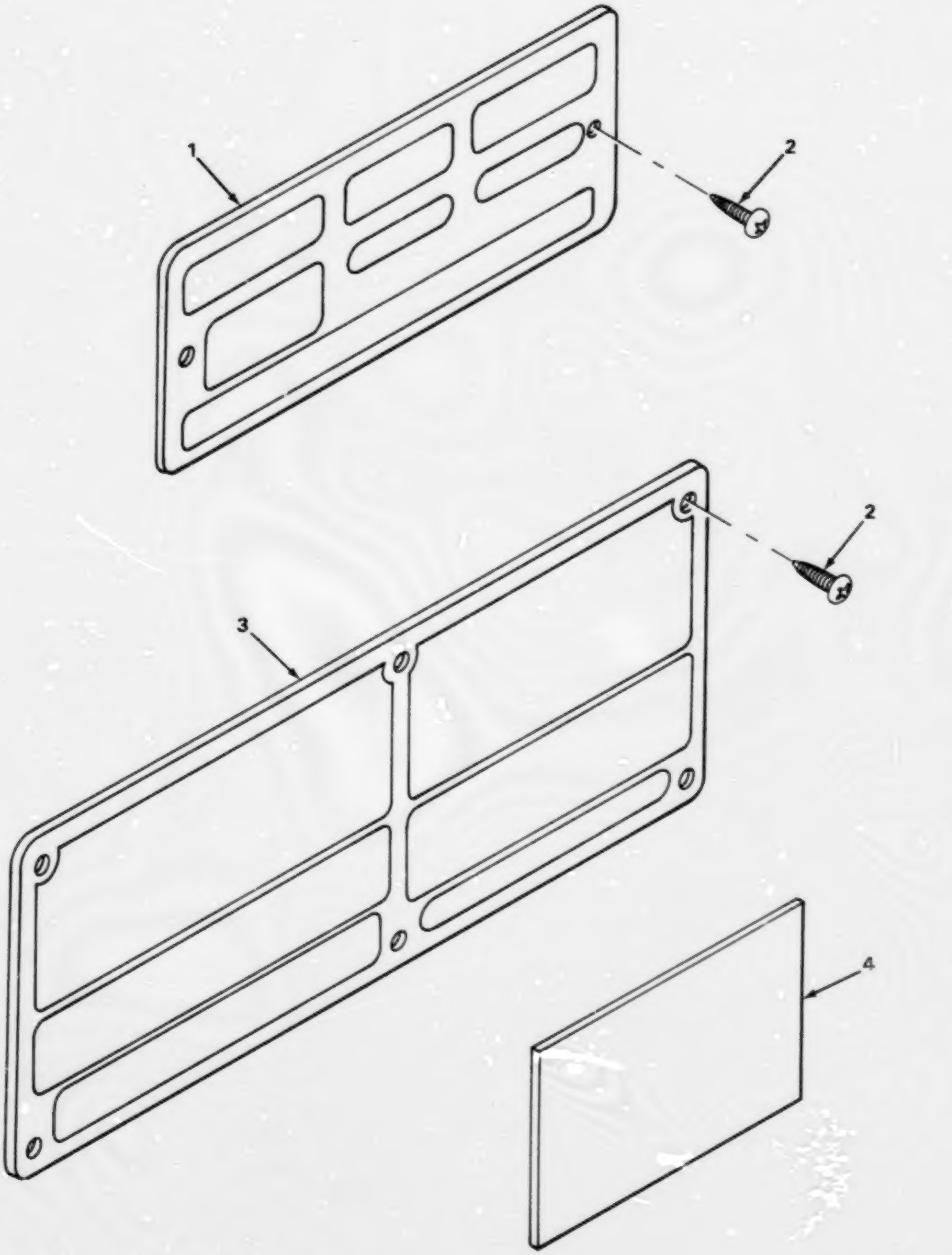
(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.							
						2202-ACCESSORY ITEMS		
46	1	PAOZZ	9905-00-205-2795	96906	MS35387-1	REFLECTOR,INDICATIN RED....................698,701,713	EA	4
46	1	PAOZZ	9905-00-202-3639	96906	MS35387-2	REFLECTOR,INDICATIN AMBER..................698,701,713	EA	2
46	2	PAOZZ	5310-00-768-0319	96906	MS51968-2	NUT,PLAIN,HEXAGON.......................................713	EA	12
46	2	PFOZZ	5310-00-761-6882	96906	MS51967-2	NUT,PLAIN,HEXAGON.......................................698	EA	12
46	3	PFOZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK...698,713	EA	12
46	4	PAOZZ	5305-00-993-2738	96906	MS35207-280	SCREW,MACHINE...713	EA	12
46	4	PFOZZ	5305-00-988-1723	96906	MS35206-279	SCREW,MACHINE...698	EA	12
46	4	PFOZZ		96906	MS24637-33	SCREW,MACHINE...701	EA	4
46	4	PAOZZ	5305-00-879-7941	96906	MS24617-31	SCREW,TAPPING,THREA.....................................701	EA	4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TA228514

FIGURE 47. DATA PLATES.

400

(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						2210-DATA PLATES AND INSTRUCTION HOLDERS		
47	1	PAOZZ	9905-00-282-7489	19207	7979373	PLATE,IDENTIFICATIO CHASSIS SERVICE.............704.714	EA	1
47	1	PAOZZ	9905-00-831-6271	19207	7996977	PLATE,INSTRUCTION..................................	EA	1
47	1	PAOZZ	9905-00-634-5351	19207	7979735	PLATE,IDENTIFICATIO..................................706	EA	1
47	2	PAOZZ	5305-00-432-4170	96906	MS51861-35	SCREW,TAPPING,THREA.................................	EA	10
47	3	PAOZZ	9905-00-078-3721	19207	8384434	PLATE,IDENTIFICATIO..................................702	EA	1
47	3	PAOZZ	9905-01-061-4282	19207	8742444	PLATE,IDENTIFICATIO PUBLICATION AND SHIPPING DATA..711, ...713	EA	2
47	3	PAOZZ	9905-00-078-3720	19207	8742442	PLATE,IDENTIFICATIO..................................713	EA	1
47	3	PAOZZ	9905-00-815-7673	19207	8683587	PLATE,IDENTIFICATIO..................................698	EA	1
47	3	PAOZZ	9905-00-770-9155	19207	8683588	PLATE,IDENTIFICATIO..................................715	EA	1
47	3	PAOZZ	9905-00-050-8792	19207	8384441	PLATE,IDENTIFICATIO..................................707	EA	1
47	3	PAOZZ	9905-00-815-7674	19207	8683590	PLATE,IDENTIFICATIO..............................698.699	EA	1
47	3	XDOZZ		19207	8742445	PLATE,IDENTIFICATIO..............................712.714	EA	1
47	3	PAOZZ	9905-00-815-7675	19207	8683589	PLATE,IDENTIFICATIO..................................715	EA	1
47	3	XDOZZ		23705	325046	PLATE,IDENTIFICATIO..................................704	EA	1
47	3	PAOZZ	9905-00-634-5350	19207	8384426	PLATE,IDENTIFICATIO..................................706	EA	1
47	3	PAOZZ	9905-00-634-5271	19207	8384437	PLATE,IDENTIFICATIO..................................706	EA	1
47	3	PAOZZ	9905-00-050-8793	19207	8742443	PLATE,IDENTIFICATIO..................................714	EA	1
47	3	PAOZZ	9905-00-813-2314	19207	10885378	PLATE,IDENTIFICATIO..................................701	EA	1
47	4	XDOZZ		19207	10884699	PLATE,IDENTIFICATIO..................................701	EA	1
47	4	PAOZZ	9905-00-999-7370	96906	MS53007-1	PLATE,IDENTIFICATIO..........................711,713.714	EA	1
47	4	PAOZZ	9905-00-999-7369	96906	MS53007-2	PLATE.......................................711,713.714	EA	1

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(1) ILLUSTRATION (a) FIG. NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(6) USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 95-GENERAL USE STANDARDIZED PARTS 9501-BULK MATERIEL			
BULK	1	PAOZZ	4710-00-277-5529	19207	8689210	TUBE,COPPER	698,699,715	FT	25
BULK	2	PAOZZ	6145-00-705-6678	81349	M13486-1-7	WIRE,ELECTRICAL	701	FT	V
BULK	3	PAOZZ	8305-00-170-5812	81348	CCCC428	CLT DK NO 8 FMWWR	698,704,713	YD	V
BULK	4	PAOZZ	9320-00-451-8080	19207	8380420	RUBBER STRIP	701	FT	V
BULK	5	XDOZZ		80244	33-H-787-125	HOSE,RUBBER	701,702,704,706,707,711,712,713,714,715	FT	V
BULK	6	XDOZZ		80244	44-T-5080-25	TUBE,METALLIC	701,702,704,706,707,711,712,713,714,715	FT	25

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NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
2590-00-004-6841	4	1
5306-00-012-0741	11	6
5315-00-013-7258	35	8
5306-00-017-6154	31	2
5315-00-018-7988	31	17
5315-00-018-7988	35	29
6240-00-019-0877	1	6
6240-00-019-0877	2	5
6240-00-019-0877	3	7
6240-00-019-3093	3	5
2530-00-021-2366	20	19
2530-00-026-0251	22	21
2530-00-026-0255	22	3
2530-00-026-0265	21	2
2530-00-026-0265	22	2
5306-00-027-0722	41	34
4010-00-032-2902	19	12
2530-00-036-0297	7	1
5340-00-040-2364	4	13
5340-00-040-2365	4	15
2540-00-040-2417	35	32
5340-00-040-2690	11	17
5340-00-040-2691	11	17
2530-00-040-2692	11	18
2530-00-040-2693	11	18
5305-00-042-6417	37	1
5305-00-044-1201	8	2
5310-00-044-6284	24	2
6240-00-044-6914	1	5
6240-00-044-6914	1	12
6240-00-044-6914	3	4
5310-00-045-3296	37	13
5310-00-045-3296	40	8
5310-00-045-3296	41	11
5310-00-045-3296	42	3
5310-00-045-3296	43	13
4730-00-050-4208	25	8
4730-00-050-4208	26	10
4730-00-050-4208	29	6
9905-00-050-8792	47	3
9905-00-050-8793	47	3
5306-00-051-4077	41	30
5305-00-052-6921	41	3
5305-00-052-6921	42	24
5305-00-052-6922	16	17
5305-00-052-6922	36	24
5310-00-053-7804	22	11
5340-00-057-2890	15	11
5999-00-057-2929	4	3
4730-00-057-5555	20	17
5305-00-057-7165	40	20
5320-00-058-9885	9	10
5320-00-058-9885	9	28
5305-00-059-4568	42	35
2640-00-060-3550	23	4
5310-00-067-6356	25	6
5305-00-068-0502	36	15
5305-00-068-0502	42	19

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
5305-00-068-0505	15	4
5305-00-066-0512	41	33
5305-00-068-0514	36	16
5310-00-068-5285	27	19
4730-00-069-1186	19	9
4730-00-069-1187	19	13
4730-00-069-1187	20	18
5305-00-071-2066	27	16
5305-00-071-2241	27	13
5305-00-071-2511	27	15
2530-00-074-2357	9	6
9905-00-078-3720	47	3
9905-00-078-3721	47	3
5310-00-080-6004	11	14
5310-00-080-6004	21	21
5310-00-080-6004	35	16
5310-00-080-6004	35	21
5310-00-081-4219	7	3
5310-00-087-7493	43	2
5310-00-088-1251	27	8
3110-00-100-0232	22	6
3110-00-100-3096	22	15
5975-00-100-8766	36	10
2530-00-133-9831	9	17
2530-00-137-9235	19	1
2910-00-141-9758	44	8
4820-00-142-2099	32	22
4730-00-142-3076	16	13
3110-00-143-7538	21	11
3110-00-143-7586	21	12
4710-00-143-9053	32	21
3040-00-150-7127	9	6
5310-00-151-8992	22	12
6145-00-152-6499	4	6
2530-00-159-8755	9	43
2530-00-159-8756	9	43
5310-00-167-0721	9	14
5310-00-167-0721	39	11
8305-00-170-5812	BULK	3
5306-00-174-4246	26	7
5306-00-174-4246	27	18
5306-00-174-4311	29	8
5340-00-177-3957	42	10
5340-00-177-4039	16	16
5340-00-177-7853	41	9
2590-00-177-8056	25	7
2510-00-177-9014	35	3
2530-00-177-9295	17	3
5340-00-178-1441	18	7
2530-00-179-3393	26	13
6220-00-179-4324	3	2
2540-00-179-5583	41	6
5305-00-182-9213	34	15
5305-00-182-9313	33	14
5305-00-182-9313	33	28
2530-00-192-8928	18	10
2530-00-192-8930	18	6
4730-00-196-1468	20	15
4730-00-196-1470	32	6
3110-00-198-0014	22	8
3110-00-198-1050	28	16

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
4710-00-200-0284	13	8
4710-00-200-0284	14	10
9905-00-202-3639	46	1
4720-00-203-9658	13	12
4720-00-203-9658	14	1
2530-00-204-4800	12	3
2540-00-205-0603	45	1
9905-00-205-2795	46	1
5306-00-206-1560	21	19
5305-00-206-3518	22	14
5306-00-206-6339	22	10
5306-00-206-6340	22	10
5310-00-209-0965	13	16
5310-00-209-1761	12	12
5310-00-209-1761	17	6
4730-00-221-2136	20	1
5305-00-225-3840	31	11
5310-00-225-6993	37	8
5310-00-225-6993	42	12
5306-00-225-8496	10	2
5306-00-225-8496	39	10
5306-00-225-8496	42	15
5306-00-225-8497	39	19
5306-00-225-8498	43	4
5306-00-225-8500	36	5
5306-00-225-9084	2	8
5306-00-225-9086	16	5
5306-00-225-9088	18	13
5306-00-225-9089	7	8
5305-00-225-9092	41	29
5306-00-226-4822	42	5
5305-00-226-7767	30	1
5940-00-230-0515	5	6
5940-00-230-0515	5	6
2540-00-231-0200	41	28
5340-00-231-7428	40	13
5340-00-231-7428	42	39
2510-00-231-7444	41	35
5315-00-234-1664	24	3
4730-00-246-9205	32	13
5325-00-249-6352	4	19
5310-00-261-7340	12	8
2610-00-262-8677	23	1
5310-00-265-9237	11	25
5305-00-267-8972	41	13
5305-00-267-8974	9	35
5305-00-269-2803	7	14
5305-00-269-2803	18	15
5305-00-269-2803	25	5
5305-00-269-2807	9	39
5305-00-269-2810	29	7
5305-00-269-3210	3	9
5305-00-269-3213	37	4
5305-00-269-3233	9	40
5305-00-269-3234	35	31
5310-00-269-6751	11	21
2610-00-269-7383	23	2
5310-00-270-8832	26	16
5310-00-270-8834	26	17
5365-00-274-4544	13	3
5365-00-274-4544	14	3
5310-00-274-8715	21	5
5306-00-275-5700	22	24
5310-00-275-6635	12	14
5310-00-275-6635	17	9
4710-00-277-5529	BULK	1
4730-00-277-8643	15	9
4730-00-278-4774	32	5
4730-00-278-5812	17	7
5340-00-281-1444	5	2
5340-00-281-1446	5	3
9905-00-282-7489	47	1
5340-00-282-7544	4	12
5340-00-282-7794	16	28
5330-00-285-5123	20	3
4730-00-287-3163	19	8
2530-00-288-2986	22	20
4730-00-289-4937	13	11
2530-00-293-1752	22	23
2530-00-293-5139	18	1
5330-00-297-7106	1	7
5330-00-297-7106	1	11
5340-00-314-0760	26	1
5310-00-314-0764	9	4
5310-00-314-0764	9	32
5310-00-314-0765	9	3
5310-00-314-0765	9	33
5306-00-316-1023	11	8
4510-00-318-8207	33	2
4510-00-318-8207	33	16
4510-00-318-8207	34	2
4510-00-318-8208	33	3
4510-00-318-8208	33	17
4510-00-318-8208	34	3
2530-00-322-7257	21	18
5310-00-322-7260	9	2
5310-00-322-7260	9	34
2530-00-322-7261	9	5
2530-00-322-7261	9	30
2530-00-323-8538	6	1
2590-00-330-3629	5	4
5306-00-335-4768	21	20
3120-00-347-5900	26	18
5360-00-347-6712	28	9
5310-00-368-4954	11	4
5306-00-383-4957	21	14
5340-00-389-0318	41	15
2530-00-391-1209	11	11
4730-00-396-2962	12	13
5940-00-399-6676	4	8
5940-00-399-6676	4	8
5940-00-399-6676	5	9
5940-00-399-6676	5	9
5310-00-407-9566	2	7
5310-00-407-9566	7	10
5310-00-407-9566	8	4
5310-00-407-9566	10	1
5310-00-407-9566	16	4
5310-00-407-9566	18	3

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NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-407-9566	20	12
5310-00-407-9566	39	15
5310-00-407-9566	40	5
5310-00-407-9566	41	17
5310-00-407-9566	42	16
5310-00-407-9566	43	5
2530-00-408-9177	7	9
2530-00-408-9177	8	11
5330-00-415-1488	40	14
5330-00-415-1488	42	40
5305-00-416-6297	33	12
5305-00-416-6297	43	8
4730-00-419-9425	13	14
4730-00-419-9425	14	4
2540-00-420-4988	35	39
5305-00-421-3986	36	20
5310-00-427-0043	29	3
5305-00-432-4170	40	22
5305-00-432-4170	47	2
5305-00-432-4172	38	4
5305-00-432-4172	41	23
5305-00-432-4172	42	25
6220-00-433-5966	2	6
2530-00-441-0210	7	12
9320-00-451-8080	BULK	4
5330-00-462-0907	3	3
4730-00-463-1588	13	9
4730-00-463-1588	14	9
5340-00-466-1978	41	7
5340-00-472-1942	35	47
5310-00-475-1299	9	18
5310-00-488-3889	40	2
2590-00-491-6856	28	1
6220-00-500-0437	1	4
6220-00-500-0437	1	13
4730-00-511-1677	16	12
4710-00-511-1692	15	1
5310-00-516-0337	11	19
4730-00-516-7419	17	5
5310-00-518-5566	21	3
2530-00-522-1157	10	8
2530-00-522-4183	9	11
2530-00-522-4183	9	27
5330-00-522-8544	40	12
5330-00-522-8544	42	38
5306-00-523-7535	9	19
2510-00-535-6797	31	7
5315-00-536-3865	26	4
5340-00-537-2212	35	44
5310-00-543-5101	17	2
5310-00-543-5101	25	3
4730-00-546-5898	35	25
5310-00-550-1130	38	7
5310-00-550-3503	9	25
4710-00-566-7133	13	7
4710-00-566-7134	13	5
2510-00-571-6968	31	19
5935-00-572-9180	4	5
5330-00-575-9791	35	46
4730-00-580-8457	20	2
5310-00-582-5965	9	36
5310-00-582-5965	10	4
5310-00-582-5965	15	6
5310-00-582-5965	20	8
5310-00-582-5965	20	8
5310-00-582-5965	31	12
5310-00-582-5965	36	13
5310-00-582-5965	41	12
5310-00-582-5965	42	20
5310-00-582-5965	46	3
5310-00-584-5272	17	17
5310-00-584-5272	22	13
5310-00-584-5272	27	17
5310-00-584-5272	31	20
5310-00-584-5272	30	3
5310-00-584-7888	11	24
5310-00-590-7893	26	15
2510-00-590-9734	31	1
5310-00-594-8038	21	3
5310-00-594-8038	22	11
4730-00-595-0083	19	4
5310-00-595-7237	37	5
5315-00-597-6079	11	13
5330-00-599-4230	22	4
2590-00-611-7107	32	11
2590-00-611-7883	4	15
2590-00-611-7883	4	15
2590-00-611-7884	4	15
2530-00-614-4454	21	6
2590-00-622-4588	4	1
5310-00-627-6128	9	21
4710-00-630-9928	13	5
9905-00-634-5271	47	3
9905-00-634-5350	47	3
9905-00-634-5351	47	1
5310-00-641-9939	9	37
3120-00-661-9119	26	12
6220-00-669-5623	1	3
6220-00-669-5623	1	3
2590-00-670-1997	4	14
2590-00-670-1997	26	14
1440-00-677-0202	21	13
5330-00-678-9047	2	4
4720-00-679-0923	19	2
5340-00-679-1496	42	14
5935-00-679-1519	36	2
5310-00-679-3606	20	5
5310-00-682-5631	36	19
5330-00-693-0625	22	16
2530-00-693-0736	26	6
2590-00-693-0737	26	8
5310-00-693-0738	26	3
5340-00-693-0739	7	6
2510-00-693-0741	31	10
4010-00-693-0743	31	16
2540-00-693-0744	31	24
2530-00-693-1007	9	9
2530-00-693-1007	9	26
2530-00-693-1010	21	10

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NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
2530-00-696-0351	20	KIT
2530-00-696-2971	7	12
4730-00-696-2972	26	9
5360-00-699-8489	26	2
5360-00-699-9018	10	6
5360-00-700-4429	18	9
2510-00-703-9760	35	6
6145-00-705-6678	BULK	2
5360-00-706-1304	11	3
5360-00-706-9054	20	4
5305-00-709-8516	17	21
5305-00-726-2553	35	45
4730-00-729-6437	13	4
4730-00-729-6437	14	6
5310-00-732-0558	18	11
5310-00-732-0558	37	6
5310-00-732-0559	7	7
5310-00-732-0559	8	6
5310-00-732-0559	9	22
5310-00-732-0559	17	1
5310-00-732-0559	18	17
5310-00-732-0559	25	2
5310-00-732-0559	29	11
5310-00-732-0559	35	33
5310-00-732-0560	17	18
5310-00-732-0560	30	4
5310-00-732-0560	31	21
5306-00-733-9239	21	14
4730-00-735-0508	16	25
4730-00-735-0508	17	12
2510-00-736-8628	29	9
2530-00-737-3260	12	5
2530-00-737-3260	12	11
5365-00-737-3354	15	3
2530-00-738-9061	21	1
2530-00-738-9061	22	1
2530-00-741-1005	6	1
5340-00-741-1006	11	5
2530-00-741-1007	8	1
5340-00-741-1008	8	7
2530-00-741-1011	8	10
2530-00-741-1012	8	10
2530-00-741-1014	11	1
5360-00-741-1017	11	7
4010-00-741-1027	24	5
5310-00-741-1028	24	4
2530-00-741-1036	26	11
2510-00-741-1042	29	1
2530-00-741-1081	20	6
2530-00-741-1077	13	13
5310-00-741-1200	33	11
5310-00-741-1378	21	9
5310-00-741-1378	21	9
5310-00-741-1379	21	8
2530-00-741-1425	21	17
5330-00-741-1429	21	16
5306-00-741-1760	9	20
4730-00-741-1903	13	6
4710-00-741-1907	13	7
2530-00-741-2050	10	7
2530-00-741-2068	10	7
5310-00-741-2088	13	1
5310-00-741-2088	14	5
5365-00-741-2103	9	38
2530-00-741-2104	9	15
5315-00-741-2106	10	9
5310-00-741-2120	9	16
5306-00-741-2228	35	28
2510-00-741-2233	35	4
2510-00-741-2234	35	14
4510-00-741-2238	33	1
5330-00-741-2242	35	12
2510-00-741-2247	35	7
4730-00-741-2249	35	5
5310-00-741-2251	34	11
5310-00-741-2252	34	12
5310-00-741-2276	35	13
5330-00-741-2279	33	21
2540-00-741-2280	33	7
2540-00-741-2280	34	7
5315-00-741-2282	35	27
5315-00-741-2285	35	22
5315-00-741-2286	35	17
5315-00-741-2286	35	26
4010-00-741-2295	35	10
5310-00-741-2303	33	25
2530-00-741-5748	20	7
5306-00-752-1631	22	22
5310-00-752-1633	22	5
2530-00-752-1655	22	7
2530-00-752-1667	22	19
5310-00-752-1711	11	20
2530-00-752-1767	11	9
2510-00-752-1826	29	4
2510-00-752-1841	29	5
6220-00-752-6018	1	10
6220-00-752-6020	1	8
5315-00-754-0848	8	8
5305-00-761-4227	30	7
5305-00-761-4227	31	8
5305-00-761-4227	31	22
5310-00-761-6882	10	5
5310-00-761-6882	20	9
5310-00-761-6882	20	9
5310-00-761-6882	36	12
5310-00-761-6882	38	8
5310-00-761-6882	42	33
5310-00-761-6882	46	2
5310-00-763-8901	28	13
5310-00-763-8920	24	7
5305-00-764-0070	2	2
5340-00-766-3330	43	3
5340-00-766-6336	41	36
5310-00-768-0319	15	5
5310-00-768-0319	32	17
5310-00-768-0319	36	17
5310-00-768-0319	41	16
5310-00-768-0319	46	2
5935-00-770-8275	36	14
2530-00-770-9149	9	42
2530-00-770-9150	9	41

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2530-00-770-9151	9	41
9905-00-770-9155	47	3
5360-00-770-9156	16	10
4820-00-770-9160	17	8
5360-00-771-6972	16	24
2530-00-772-5274	17	13
4730-00-773-2163	15	2
2530-00-774-9401	9	1
2530-00-774-9402	9	1
6220-00-775-2384	2	3
5935-00-776-0599	4	2
5935-00-776-0599	4	2
2590-00-790-2289	28	3
5315-00-790-2290	28	7
2590-00-790-2291	28	8
2590-00-790-2292	28	11
2590-00-790-2293	28	14
2590-00-790-2294	28	2
2590-00-790-2298	36	18
2530-00-794-9763	10	8
2530-00-797-9295	19	14
2530-00-797-9295	19	14
5306-00-797-9296	20	10
5306-00-797-9296	20	10
2530-00-798-4850	9	23
4720-00-805-0526	16	23
4730-00-805-0677	16	7
4730-00-805-0678	16	21
4720-00-809-2750	15	14
5310-00-809-3079	40	3
5310-00-809-3079	42	13
5310-00-809-4058	15	8
5310-00-809-4058	31	13
5310-00-809-4058	36	25
5310-00-809-5998	17	16
5310-00-809-5998	35	30
2640-00-810-5861	23	3
9905-00-813-2314	47	3
9905-00-815-7673	47	3
9905-00-815-7674	47	3
9905-00-815-7675	47	3
5315-00-816-5491	28	17
5305-00-819-7024	44	3
5365-00-819-7025	28	4
5310-00-820-6653	24	6
8305-00-823-7340	11	22
2590-00-830-6663	5	4
9905-00-831-6271	47	1
5935-00-833-8561	4	9
5935-00-833-8561	4	9
5935-00-833-8561	5	7
5935-00-833-8561	5	7
5970-00-833-8562	4	7
5970-00-833-8562	4	7
5970-00-833-8562	5	8
5970-00-833-8562	5	8
5310-00-833-8567	4	4
5315-00-839-5820	41	8
5315-00-839-5822	42	6
5310-00-842-1488	11	15
5315-00-842-3044	7	2
5315-00-842-3044	11	16
5315-00-842-3044	35	11
5315-00-842-3044	35	15
5315-00-842-3044	35	24
5315-00-842-3154	42	11
6220-00-846-9745	2	1
4820-00-849-1220	20	16
5310-00-853-9335	9	13
5305-00-855-0956	4	16
5305-00-855-0956	5	1
5305-00-855-0960	42	41
5305-00-855-0964	4	11
5305-00-855-0964	19	11
5305-00-855-0965	42	32
5305-00-879-7941	41	31
5305-00-879-7941	46	4
5310-00-880-7744	39	16
5310-00-880-7744	42	36
5310-00-880-7744	43	6
5310-00-880-7745	13	15
5310-00-880-7745	14	7
5310-00-880-7746	7	11
5310-00-880-7746	16	3
5310-00-880-7746	20	11
5310-00-880-7746	40	4
5310-00-880-7746	41	18
5310-00-885-7734	44	10
2530-00-886-8066	25	9
5310-00-889-2606	35	20
5310-00-889-2606	37	7
5310-00-903-3993	9	7
5310-00-903-3993	9	24
4730-00-908-3194	16	8
4730-00-908-3194	16	22
4730-00-908-3194	17	11
4730-00-909-8627	35	35
2540-00-924-0315	38	5
2540-00-924-0315	41	21
2540-00-924-0315	42	26
5310-00-924-4218	9	44
5330-00-930-5292	13	10
2530-00-930-8232	16	2
5310-00-934-9751	37	14
5310-00-934-9751	41	10
5310-00-934-9751	42	4
5310-00-934-9751	43	12
5310-00-934-9754	42	44
5310-00-934-9755	44	9
5310-00-934-9757	42	17
5310-00-934-9758	40	7
5310-00-934-9758	41	20
5310-00-934-9758	42	21
5306-00-937-2321	35	23
5305-00-942-2196	37	3
5305-00-947-4364	25	10
5925-00-952-8641	36	23
5305-00-958-5471	40	10
5305-00-959-4159	39	6
5305-00-959-4159	39	17

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5305-00-959-4159	41	1
5305-00-959-4159	42	1
2530-00-973-2355	9	31
2530-00-973-2356	9	31
5310-00-982-4908	21	22
5305-00-984-6207	36	22
5305-00-984-6212	41	26
5305-00-984-6212	42	30
5305-00-984-7356	44	11
2530-00-987-2565	10	3
5305-00-988-1723	21	4
5305-00-988-1723	46	4
5305-00-988-1727	38	2
5305-00-988-1727	39	2
5305-00-990-6444	37	11
5305-00-990-6444	41	14
5305-00-990-6444	42	43
2530-00-991-4342	10	3
5305-00-993-2738	46	4
5310-00-998-0608	21	15
9905-00-999-7369	47	4
9905-00-999-7370	47	4
5305-01-010-2362	12	9
5305-01-010-2362	17	4
2530-01-042-0683	20	14
5306-01-043-5702	20	13
5340-01-046-8106	31	14
9905-01-061-4282	47	3
2510-01-067-4717	3	6
2530-01-083-5641	9	17
5360-01-090-4540	28	15
6220-01-093-4439	3	1
5330-01-094-5104	12	2
4720-01-095-0515	32	10
4720-01-095-0515	35	36
2510-01-111-7097	31	23
5310-01-130-9065	1	2
5310-01-130-9065	3	8
5310-01-130-9065	7	15
5310-01-130-9065	17	19
5310-01-130-9065	35	34
5310-01-130-9065	18	12
5310-01-130-9065	18	16
5310-01-130-9065	22	18
5310-01-130-9065	29	12
2590-01-137-3371	28	10
4730-01-139-9798	16	11
1095-01-141-4814	18	4
1095-01-146-7686	18	5
5330-01-147-1629	21	7
5365-01-158-6311	35	42
4930-01-162-3855	35	2
5315-01-164-6493	31	18
5340-01-185-2810	4	18

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FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
00141	AK6	3110-00-198-1050	28	16
78500	A1-3216S981	2530-00-741-1005	6	1
78500	A1205Z650	5330-00-693-0625	22	16
43334	A127418	3110-00-143-7538	21	11
78500	A2-3722C3	2530-00-752-1767	11	9
81996	A2303-12-51PC18	4730-00-246-9205	32	13
23705	A297940-6	2540-00-741-2280	33	7
23705	A297940-6	2540-00-741-2280	34	7
23705	A298264	2530-00-741-1011	8	10
23705	A298265	2530-00-741-1012	8	10
23075	A298320	2530-00-293-5139	18	1
23705	A298322	4710-00-511-1692	15	1
23705	A298408	4720-00-679-0923	19	2
23705	A298531	2530-00-741-1014	11	1
23705	A298537	2530-00-741-1007	8	1
23705	A298749	2530-00-797-9295	19	14
23705	A298749	2530-00-797-9295	19	14
78500	A333E785	2530-00-752-1655	22	7
08162	BT392	3110-00-100-0232	22	6
08162	BT3994	3110-00-100-3096	22	15
81348	CF206	8305-00-823-7340	11	22
81348	CCCC428	8305-00-170-5812	BULK	3
40342	C479	2530-00-772-5274	17	13
63477	FC13927E	4730-00-741-1903	13	6
63477	FC14257	2530-00-741-2104	9	15
63477	FC22218	5310-00-475-1299	9	18
63477	FC22219	2530-00-770-9149	9	42
63477	FC22220	2530-00-770-9150	9	41
63477	FC22221	2530-00-770-9151	9	41
63477	FC3354	4730-00-396-2962	12	13
63477	FC4819	4730-00-278-5812	17	7
63477	FD13351	4710-00-741-1907	13	7
63477	FD14048		12	4
63477	FD17762	2530-00-074-2357	9	6
06542	FED-STD 156	5975-00-100-8766	36	10
63477	FE14240	2530-00-204-4800	12	3
63477	FE1774		9	23
63477	FE17749	2530-00-798-4850	9	23
63477	FE17759	2530-00-774-9401	9	1
63477	FE17760	2530-00-774-9402	9	1
63477	FS6114		12	6
63477	F12088	5315-00-741-2106	10	9
63477	F17751	2530-00-973-2356	9	31
63477	F17758	2530-00-322-7261	9	5
63477	F17758	2530-00-322-7261	9	30
63477	F19223	2530-00-693-1007	9	9
63477	F19223	2530-00-693-1007	9	26
63477	F19581	2530-00-522-1157	10	8
63477	F19582	2530-00-794-9763	10	8
63477	F19635	2530-00-991-4342	10	3
63477	F19636	2530-00-987-2565	10	3
63477	F6783	5310-00-641-9939	9	37
63477	F9556	2530-00-741-2050	10	7
79146	HO-168-6X4	4730-00-069-1186	19	9
81349	MILH13719	4720-00-203-9658	BULK	4
81349	MILT3520	4710-00-200-0284	13	8
81349	MILT3520	4710-00-200-0284	14	10
96906	MS15003-1	4730-00-050-4208	25	8
96906	MS15003-1	4730-00-050-4208	26	10
96906	MS15003-1	4730-00-050-4208	29	6
96906	MS15570-1251	6240-00-019-0877	1	6
96906	MS15570-1251	6240-00-019-0877	2	5
96906	MS15570-1251	6240-00-019-0877	3	7
96906	MS15570-623	6240-00-019-3093	3	5
96906	MS16536-176	5320-00-058-9885	9	10
96906	MS16536-176	5320-00-058-9885	9	28
96906	MS17829-4C		27	11
96906	MS18154-59	5305-01-010-2362	12	9
96906	MS18154-59	5305-01-010-2362	17	4
96906	MS18154-60	5305-00-942-2196	37	3
96906	MS20913-1S	4730-00-221-2136	20	1
96906	MS21044-N12		27	2
96906	MS21044-N9		27	21
96906	MS21045-6	5310-00-982-4908	21	22
96906	MS21333-3	5340-00-057-2890	15	11
96906	MS21333-35	5340-00-282-7544	4	12
96906	MS21333-7	5340-00-177-4039	16	16
96906	MS24615-25	5305-00-057-7165	40	20
96906	MS24617-31	5305-00-879-7941	41	31
96906	MS24617-31	5305-00-879-7941	46	4
96906	MS24617-53	5305-00-959-4159	39	6
96906	MS24617-53	5305-00-959-4159	39	17
96906	MS24617-53	5305-00-959-4159	41	1
96906	MS24617-53	5305-00-959-4159	42	1
96906	MS24629-36	5305-00-855-0960	42	41
96906	MS24629-38	5305-00-855-0965	42	32
96906	MS24629-47	5305-00-855-0956	4	16
96906	MS24629-47	5305-00-855-0956	5	1
96906	MS24629-48	5305-00-855-0964	4	11
96906	MS24629-48	5305-00-855-0964	19	11
96906	MS24629-57	5305-00-052-6921	41	3
96906	MS24629-57	5305-00-052-6921	42	24
96906	MS24629-58	5305-00-052-6922	16	17
96906	MS24629-58	5305-00-052-6922	36	24
96906	MS24637-33		46	4
96906	MS24641-49		16	15
96906	MS24649-35		40	15
96906	MS24665-134	5315-00-839-5820	41	8
96906	MS24665-283	5315-00-842-3044	7	2
96906	MS24665-283	5315-00-842-3044	11	16
96906	MS24665-283	5315-00-842-3044	35	11
96906	MS24665-283	5315-00-842-3044	35	15
96906	MS24665-283	5315-00-842-3044	35	24
96906	MS24665-353	5315-00-839-5822	42	6
96906	MS24665-493	5315-00-018-7988	31	17
96906	MS24665-493	5315-00-018-7988	35	29
96906	MS24665-495	5315-00-234-1664	24	3
96906	MS24665-497	5315-00-013-7258	35	8
96906	MS25036-154	5940-00-230-0515	5	6
96906	MS25036-154	5940-00-230-0515	5	6
96906	MS27148-2	5999-00-057-2929	4	3
96906	MS27183-10	5310-00-809-4058	15	8
96906	MS27183-10	5310-00-809-4058	31	13
96906	MS27183-10	5310-00-809-4058	36	25
96906	MS27183-12	5310-00-081-4219	7	3
96906	MS27183-13	5310-00-087-7493	43	2
96906	MS27183-14	5310-00-080-6004	11	14
96906	MS27183-14	5310-00-080-6004	21	21
96906	MS27183-14	5310-00-080-6004	35	16
96906	MS27183-14	5310-00-080-6004	35	21
96906	MS27183-18	5310-00-809-5998	17	16

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96906	MS27183-18	5310-00-809-5998	35	30
96906	MS27183-19	5310-00-809-3079	40	3
96906	MS27183-19	5310-00-809-3079	42	13
96906	MS27183-20	5310-00-068-5285	27	19
96906	MS28775-12		18	8
96906	MS35140-11		16	27
96906	MS35140-13		16	19
96906	MS35140-14	5340-00-282-7794	16	28
96906	MS35140-15		16	18
96906	MS35190-253	5305-00-059-4568	42	35
96906	MS35190-273	5305-00-958-5471	40	10
96906	MS35191-239	5305-00-984-7356	44	11
96906	MS35206-260	5305-00-984-6207	36	22
96906	MS35206-265	5305-00-984-6212	41	26
96906	MS35206-265	5305-00-984-6212	42	30
96906	MS35206-279	5305-00-988-1723	21	4
96906	MS35206-279	5305-00-988-1723	46	4
96906	MS35206-283	5305-00-988-1727	38	2
96906	MS35206-283	5305-00-988-1727	39	2
96906	MS35207-26		41	38
96906	MS35207-261	5305-00-990-6444	37	11
96906	MS35207-261	5305-00-990-6444	41	14
96906	MS35207-261	5305-00-990-6444	42	43
96906	MS35207-280	5305-00-993-2738	46	4
96906	MS35226-42		42	46
96906	MS35226-64	5305-00-416-6297	33	12
96906	MS35226-64	5305-00-416-6297	43	8
96906	MS35229-045		33	26
96906	MS35230-063		34	13
96906	MS35291-41		43	1
96906	MS35291-58		1	1
96906	MS35292-005		32	14
96906	MS35298-59		17	20
96906	MS35333-40	5310-00-550-1130	38	7
96906	MS35333-41	5310-00-167-0721	9	14
96906	MS35333-41	5310-00-167-0721	39	11
96906	MS35333-42	5310-00-595-7237	37	5
96906	MS35335-26		9	8
96906	MS35335-35	5310-00-627-6128	9	21
96906	MS35335-36	5310-00-550-3503	9	25
96906	MS35337-025		32	16
96906	MS35337-28		14	8
96906	MS35337-28		17	22
96906	MS35338-27	5310-00-543-5101	17	2
96906	MS35338-27	5310-00-543-5101	25	3
96906	MS35338-43	5310-00-045-3296	37	13
96906	MS35338-43	5310-00-045-3296	40	8
96906	MS35338-43	5310-00-045-3296	41	11
96906	MS35338-43	5310-00-045-3296	42	3
96906	MS35338-43	5310-00-045-3296	43	13
96906	MS35338-44	5310-00-582-5965	9	36
96906	MS35338-44	5310-00-582-5965	10	4
96906	MS35338-44	5310-00-582-5965	15	6
96906	MS35338-44	5310-00-582-5965	20	8
96906	MS35338-44	5310-00-582-5965	20	8
96906	MS35338-44	5310-00-582-5965	31	12
96906	MS35338-44	5310-00-582-5965	36	13
96906	MS35338-44	5310-00-582-5965	41	12
96906	MS35338-44	5310-00-582-5965	42	20
96906	MS35338-44	5310-00-582-5965	46	3
96906	MS35338-45	5310-00-407-9566	2	7
96906	MS35338-45	5310-00-407-9566	7	10
96906	MS35338-45	5310-00-407-9566	8	4
96906	MS35338-45	5310-00-407-9566	10	1
96906	MS35338-45	5310-00-407-9566	16	4
96906	MS35338-45	5310-00-407-9566	18	3
96906	MS35338-45	5310-00-407-9566	20	12
96906	MS35338-45	5310-00-407-9566	39	15
96906	MS35338-45	5310-00-407-9566	40	5
96906	MS35338-45	5310-00-407-9566	41	17
96906	MS35338-45	5310-00-407-9566	42	16
96906	MS35338-45	5310-00-407-9566	43	5
96906	MS35338-46	5310-01-130-9065	1	2
96906	MS35338-46	5310-01-130-9065	3	8
96906	MS35338-46	5310-01-130-9065	7	15
96906	MS35338-46	5310-01-130-9065	17	19
96906	MS35338-46	5310-01-130-9065	18	12
96906	MS35338-46	5310-01-130-9065	18	16
96906	MS35338-46	5310-01-130-9065	22	18
96906	MS35338-46	5310-01-130-9065	29	12
96906	MS35338-46	5310-01-130-9065	35	34
96906	MS35338-47	5310-00-209-0965	13	16
96906	MS35338-48	5310-00-584-5272	17	17
96906	MS35338-48	5310-00-584-5272	22	13
96906	MS35338-48	5310-00-584-5272	27	17
96906	MS35338-48	5310-00-584-5272	30	3
96906	MS35338-48	5310-00-584-5272	31	20
96906	MS35338-50	5310-00-820-6653	24	6
96906	MS35338-51	5310-00-584-7888	11	24
96906	MS35338-63	5310-00-274-8715	21	5
96906	MS35338-8	5310-00-261-7340	12	8
96906	MS35387-1	9905-00-205-2795	46	1
96906	MS35387-2	9905-00-202-3639	46	1
96906	MS35425-42	5310-00-889-2606	35	20
96906	MS35425-42	5310-00-889-2606	37	7
96906	MS35478-1683	6240-00-044-6914	1	5
96906	MS35478-1683	6240-00-044-6914	1	12
96906	MS35478-1683	6240-00-044-6914	3	4
96906	MS35489-72	5325-00-249-6352	4	19
96906	MS35609-625		22	17
96906	MS35645-1	2910-00-141-9758	44	8
96906	MS35649-202	5310-00-934-9758	40	7
96906	MS35649-202	5310-00-934-9758	41	20
96906	MS35649-202	5310-00-934-9758	42	21
96906	MS35649-282	5310-00-934-9757	42	17
96906	MS35649-286		33	4
96906	MS35649-286		33	18
96906	MS35649-286		34	4
96906	MS35650-302	5310-00-934-9751	37	14
96906	MS35650-302	5310-00-934-9751	41	10
96906	MS35650-302	5310-00-934-9751	42	4
96906	MS35650-302	5310-00-934-9751	43	12
96906	MS35650-362	5310-00-934-9755	44	9
96906	MS35650-382	5310-00-934-9754	42	44
96906	MS35690-1224	5310-00-265-9237	11	25
96906	MS35691-13	5310-00-853-9335	9	13
96906	MS35692-21	5310-00-842-1488	11	15
96906	MS35692-61	5310-00-998-0608	21	15
96906	MS35746-1	4730-00-595-0083	19	4

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FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
96906	MS35751-19	5306-00-027-0722	41	34
96906	MS35782-5	4820-00-849-1220	20	16
96906	MS35810-3	5315-00-754-0848	8	8
96906	MS35810-36	5315-00-842-3154	42	11
96906	MS35812-11	5340-00-177-3957	42	10
96906	MS35842-11	4730-00-908-3194	16	8
96906	MS35842-11	4730-00-908-3194	16	22
96906	MS35842-11	4730-00-908-3194	17	11
96906	MS35842-13	4730-00-909-8627	35	35
96906	MS35842-2		15	15
96906	MS36749		19	3
96906	MS39020-1		4	10
96906	MS39020-1		4	10
96906	MS39020-1		5	5
96906	MS39020-1		5	5
96906	MS39133-1		19	7
96906	MS39133-2		19	5
96906	MS39179-9	4730-00-142-3076	16	13
96906	MS39182-3	4730-00-069-1187	19	13
96906	MS39182-3	4730-00-069-1187	20	18
96906	MS45905-56		7	5
96906	MS49005-6	4730-00-057-5555	20	17
96906	MS51302-1	6220-00-846-9745	2	1
96906	MS51329-1	6220-00-669-5623	1	3
96906	MS51329-1	6220-00-669-5623	1	3
96906	MS51330-1		1	9
96906	MS51339-2		24	1
96906	MS51377-1	2640-00-810-5861	23	3
96906	MS51861-35	5305-00-432-4170	40	22
96906	MS51861-35	5305-00-432-4170	47	2
96906	MS51861-37	5305-00-432-4172	38	4
96906	MS51861-37	5305-00-432-4172	41	23
96906	MS51861-37	5305-00-432-4172	42	25
96906	MS51922-1	5310-00-088-1251	27	8
96906	MS51922-33	5310-00-225-6993	37	8
96906	MS51922-33	5310-00-225-6993	42	12
96906	MS51922-57	5310-00-067-6356	25	6
96906	MS51943-39	5310-00-488-3889	40	2
96906	MS51946-1	5306-00-733-9239	21	14
96906	MS51946-11	5306-00-206-1560	21	19
96906	MS51946-2	5306-00-383-4957	21	14
96906	MS51946-3	5306-00-206-6339	22	10
96906	MS51946-4	5306-00-206-6340	22	10
96906	MS51953-145	4730-00-196-1470	32	6
96906	MS51953-97	4730-00-196-1468	20	15
96906	MS51959-46	5305-00-764-0070	2	2
96906	MS51967-2	5310-00-761-6882	10	5
96906	MS51967-2	5310-00-761-6882	20	9
96906	MS51967-2	5310-00-761-6882	20	9
96906	MS51967-2	5310-00-761-6882	36	12
96906	MS51967-2	5310-00-761-6882	38	8
96906	MS51967-2	5310-00-761-6882	42	33
96906	MS51967-2	5310-00-761-6882	46	2
96906	MS51967-20	5310-00-763-8920	24	7
96906	MS51967-5	5310-00-880-7744	39	16
96906	MS51967-5	5310-00-880-7744	42	36
96906	MS51967-5	5310-00-880-7744	43	6
96906	MS51967-8	5310-00-732-0558	18	11
96906	MS51967-8	5310-00-732-0558	37	6
96906	MS51968-11	5310-00-880-7745	13	15
96906	MS51968-11	5310-00-880-7745	14	7
96906	MS51968-14	5310-00-732-0560	17	18
96906	MS51968-14	5310-00-732-0560	30	4
96906	MS51968-14	5310-00-732-0560	31	21
96906	MS51968-2	5310-00-768-0319	15	5
96906	MS51968-2	5310-00-768-0319	32	17
96906	MS51968-2	5310-00-768-0319	36	17
96906	MS51968-2	5310-00-768-0319	41	16
96906	MS51968-2	5310-00-768-0319	46	2
96906	MS51968-23	5310-00-763-8901	28	13
96906	MS51968-4		18	2
96906	MS51968-5	5310-00-880-7746	7	11
96906	MS51968-5	5310-00-880-7746	16	3
96906	MS51968-5	5310-00-880-7746	20	11
96906	MS51968-5	5310-00-880-7746	40	4
96906	MS51968-5	5310-00-880-7746	41	18
96906	MS51968-8	5310-00-732-0559	7	7
96906	MS51968-8	5310-00-732-0559	8	6
96906	MS51968-8	5310-00-732-0559	9	22
96906	MS51968-8	5310-00-732-0559	17	1
96906	MS51968-8	5310-00-732-0559	18	17
96906	MS51968-8	5310-00-732-0559	25	2
96906	MS51968-8	5310-00-732-0559	29	11
96906	MS51968-8	5310-00-732-0559	35	33
96906	MS51970-1	5310-00-924-4218	9	44
96906	MS51970-4	5310-00-903-3993	9	7
96906	MS51970-4	5310-00-903-3993	9	24
96906	MS51983-1	5310-00-518-5566	21	3
96906	MS51983-2	5310-00-594-8038	21	3
96906	MS51983-2	5310-00-594-8038	22	11
96906	MS52125-2	6220-01-093-4439	3	1
96906	MS521301A204120	4720-00-809-2750	15	14
96906	MS524641-49		15	10
96906	MS53004-2	2530-00-021-2366	20	19
96906	MS53007-1	9905-00-999-7370	47	4
96906	MS53007-2	9905-00-999-7369	47	4
96906	MS53044-5	2530-00-026-0265	21	2
96906	MS53044-5	2530-00-026-0265	22	2
96906	MS53045-3	2530-00-738-9061	21	1
96906	MS53045-3	2530-00-738-9061	22	1
96906	MS53047-1	6220-00-500-0437	1	4
96906	MS53047-1	6220-00-500-0437	1	13
96906	MS53060-4	2530-00-441-0210	7	12
96906	MS61967-5		43	7
96906	MS9048-234		27	10
96906	MS90725-10	5305-00-071-2241	27	13
96906	MS90725-113	5305-00-042-6417	37	1
96906	MS90725-31	5306-00-225-8496	10	2
96906	MS90725-31	5306-00-225-8496	39	10
96906	MS90725-31	5306-00-225-8496	42	15
96906	MS90725-32	5306-00-225-8497	39	19
96906	MS90725-33	5306-00-225-8498	43	4
96906	MS90725-35	5306-00-225-8500	36	5
96906	MS90725-5	5305-00-071-2511	27	15
96906	MS90725-59	5305-00-269-3210	3	9
96906	MS90725-6	5305-00-068-0502	36	15
96906	MS90725-6	5305-00-068-0502	42	19
96906	MS90725-62	5305-00-269-3213	37	4
96906	MS90725-7	5305-00-225-3840	31	11
96906	MS90726-1	5305-00-267-8972	41	13

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FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
96906	MS90726-109	5305-00-226-7767	30	1
96906	MS90726-111	5305-00-761-4227	30	7
96906	MS90726-111	5305-00-761-4227	31	8
96906	MS90726-111	5305-00-761-4227	31	22
96906	MS90726-29	5306-00-225-9084	2	8
96906	MS90726-31	5306-00-225-9086	16	5
96906	MS90726-33	5306-00-225-9088	18	13
96906	MS90726-34	5306-00-225-9089	7	8
96906	MS90726-37	5305-00-225-9092	41	29
96906	MS90726-5	5305-00-068-0505	15	4
96906	MS90726-60	5305-00-269-2803	7	14
96906	MS90726-60	5305-00-269-2803	18	15
96906	MS90726-60	5305-00-269-2803	25	5
96906	MS90726-64	5305-00-269-2807	9	39
96906	MS90726-68	5305-00-269-2810	29	7
96906	MS90726-8	5305-00-267-8974	9	35
96906	MS90727-166	5305-00-726-2553	35	45
96906	MS90727-35	5306-00-051-4077	41	30
96906	MS90727-4	5305-00-068-0512	41	33
96906	MS90727-57	5305-00-269-3233	9	40
96906	MS90727-58	5305-00-269-3234	35	31
96906	MS90727-7	5305-00-068-0514	36	16
96906	MS90727-86	5305-00-709-8516	17	21
96906	MS90728-109	5305-00-071-2066	27	16
96906	MS90728-201	5305-00-947-4364	25	10
96906	MS90728-29	5306-00-226-4822	42	5
81349	M13486-1-5	6145-00-152-6499	4	6
81349	M13486-1-7	6145-00-705-6678	BULK	2
91340	M4X509	5330-00-285-5123	20	3
96906	M535292-35		40	16
40342	N-12970-A	2530-00-741-5748	20	7
80205	NAS1611-123	5330-01-094-5104	12	2
23705	N12971	2530-00-741-1081	20	6
40342	N12972	5310-00-679-3606	20	5
52787	P120	5925-00-952-8641	36	23
40342	RN13A	2530-00-696-0351	20	KIT
12603	SA20160	2530-00-323-8538	6	1
01475	SW500-43	2590-00-330-3629	5	4
21530	S384	4730-00-546-5898	35	25
51665	US48	2640-00-060-3550	23	4
90129	X8110-3	5935-00-770-8275	36	14
81348	ZZ-I-550/900-20/ TR175A/ONCTR	2610-00-269-7383	23	2
81348	ZZ-T-381M/GROUP3 /9.00-20/D/TBCC	2610-00-262-8677	23	1
90598	10517-2	4730-00-278-4774	32	5
19207	108629		8	9
19207	10871578	5340-00-177-7853	41	9
19207	10884699		47	4
19207	10885200	2590-00-491-6856	28	1
19207	10885201		28	6
19207	10885202		28	5
19207	10885203	2590-00-790-2294	28	2
19207	10885207		41	2
19207	10885208		41	5
19207	10885211		41	19
19207	10885211		42	22
19207	10885218		42	45
19207	10885219		41	22
19207	10885219		42	27
19207	10885220		41	25
19207	10885220		42	29
19207	10885221		42	2
19207	10885225		41	4
19207	10885225		42	23
19207	10885227		41	24
19207	10885227		42	28
19207	10885228		42	9
19207	10885229		42	18
19207	10885231		42	47
19207	10885237		40	9
19207	10885237		42	34
19207	10885238		39	1
19207	10885239		39	1
19207	10885244		39	7
19207	10885282		42	31
19207	10885292		39	3
19207	10885293		39	7
19207	10885296		39	9
19207	10885320		43	10
19207	10885321		43	11
19207	10885340		40	1
19207	10885346		40	17
19207	10885347		40	18
19207	10885350		37	10
19207	10885351		37	9
19207	10885353		37	2
19207	10885354		38	6
19207	10885355		38	1
19207	10885356		40	6
19207	10885357		40	21
19207	10885358		38	3
19207	10885360		39	18
19207	10885375		36	11
19207	10885377	2590-00-790-2298	36	18
19207	10885378	9905-00-813-2314	47	3
19207	10885379		36	3
19207	10885381		43	9
19207	10885388		39	9
19207	10885392		44	1
19207	10885393		44	6
19207	10885396		44	7
19207	10885397		44	5
19207	10885398		44	2
19207	10885399		44	4
19207	10885400	5305-00-819-7024	44	3
19207	10896696	2530-00-288-2986	22	20
19207	10900796		40	11
19207	10900797		42	37
19207	10922097		42	7
19207	10922107		36	8
19207	10922108		35	9
19207	10923514		37	12
19207	10923514		41	37
19207	10923514		42	42
19207	10929947		39	14
19207	10929951-1		41	27
19207	10944734		32	20
19207	11625104	2530-01-042-0683	20	14
19207	11625105	5306-01-043-5702	20	13
19207	11639519-2	5330-00-462-0907	3	3

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19207	11639520	2510-01-067-4717	3	6
19207	11639535	6220-00-179-4324	3	2
19207	11652179	2530-00-036-0297	7	1
19207	11652182	2590-00-004-6841	4	1
12204	120426	5305-00-206-3518	22	14
12204	120526		8	3
12204	120741	5306-00-012-0741	11	6
19207	121661		8	12
19207	12204		8	5
19207	12259828		27	3
19207	12259830		27	1
19207	12259830-1		27	6
19207	12259831		27	14
19207	12259835		27	12
19207	12259839		27	20
19207	12259845		27	9
19207	12259856-1		27	5
19207	12259856-2		27	5
19207	12312996		27	7
19207	12331725-1		12	1
02686	123917	2530-00-973-2355	9	31
30379	143342	4730-00-277-8643	15	9
19207	144088		32	7
19207	144897		39	5
94222	17-10015-13	5310-00-885-7734	44	10
19207	1705812-1		31	15
24617	176154	5306-00-017-6154	31	2
19207	178434		36	21
19207	179536		32	19
19207	186564		32	3
19207	186750		32	1
56442	2C328	2510-00-752-1826	29	4
57416	2C355	2530-00-322-7257	21	18
04741	217709	4730-00-511-1677	16	12
19207	219679		32	4
19207	219695		32	2
24617	2284031	2530-00-741-1425	21	17
06853	235091	4730-00-580-8457	20	2
06853	235093	5360-00-706-9054	20	4
71843	2392A	5340-00-679-1496	42	14
19207	2775529-54		16	26
19207	2775529-60		16	14
86107	29-1	4510-00-741-2238	33	1
23705	296641	3120-00-661-9119	26	12
23705	297640	4730-00-287-3163	19	8
23705	298498	5340-00-040-2690	11	17
23705	298499	5340-00-040-2691	11	17
23705	298506	5310-00-368-4954	11	4
23705	298516	2530-00-040-2692	11	18
23705	298517	2530-00-040-2693	11	18
23705	301638	5306-00-316-1023	11	8
06848	317888		12	10
23705	319271	4720-01-095-0515	32	10
23705	319271	4720-01-095-0515	35	36
23705	321090	2540-00-040-2417	35	32
23705	324372	2590-00-693-0737	26	8
23705	324420	2530-00-693-0736	26	6
23705	325046		47	3
78500	3262H86	2530-00-026-0255	22	3
80244	33-H-787-125		BULK	5
19207	33-H-787-125-72		19	6
56442	348S3	2510-00-752-1841	29	5
60038	3920-4-192	3110-00-198-0014	22	8
80244	44-T-5080-25		BULK	6
19207	44-T-5085-25-79		19	10
21450	441201	5305-00-044-1201	8	2
21450	443864		32	18
21450	443866		32	12
24617	446284	5310-00-044-6284	24	2
19207	451023		26	5
19207	451027		35	48
19207	4518080-2		39	8
19207	454634	5310-00-590-7893	26	15
56933	5RE72E	2510-00-736-8628	29	9
19207	502921		32	9
19207	503388		31	9
19207	503394		31	5
19207	5156636	5330-00-930-5292	13	10
19207	5160323	5310-00-209-1761	12	12
19207	5160323	5310-00-209-1761	17	6
19207	5160337	5310-00-516-0337	11	19
19207	5160341		11	23
19207	5160345	5310-00-269-6751	11	21
19207	5167419	4730-00-516-7419	17	5
79470	5167679	4730-00-463-1588	13	9
79470	5167679	4730-00-463-1588	14	9
19207	5214539	5310-00-275-6635	12	14
19207	5214539	5310-00-275-6635	17	9
19207	5298653	5365-00-274-4544	13	3
19207	5298653	5365-00-274-4544	14	3
19207	5303461	2530-00-408-9177	7	9
19207	5303461	2530-00-408-9177	8	11
21450	537804	5310-00-053-7804	22	11
19220	5607-51	5340-00-466-1978	41	7
19220	5710B		35	41
21450	582826	5330-00-522-8544	40	12
21450	582826	5330-00-522-8544	42	38
19207	589883		11	12
73331	5942528	5330-00-678-9047	2	4
19207	6144356	5330-01-147-1629	21	7
19204	6144454	2530-00-614-4454	21	6
19207	7003071		39	4
19207	7018991		39	12
19207	7018992		39	13
19207	7039760	2510-00-703-9760	35	6
19207	7045149	5360-01-090-4540	28	15
19207	7045152	5360-00-347-6712	28	9
19207	7045791-2		36	7
19207	7056678-10		36	4
19207	7061304	5360-00-706-1304	11	3
19207	7064979		9	12
19207	7064979		9	29
19207	7084828	2540-00-231-0200	41	28
23705	712869	3110-00-143-7586	21	12
09386	71423E	2530-00-693-1010	21	10
19207	7264634	5340-00-389-0318	41	15
19207	7264735	2540-00-179-5583	41	6
19207	7320658	5330-00-297-7106	1	7
19207	7320658	5330-00-297-7106	1	11
19207	7335509		41	32
19207	7335511		36	6

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
19207	7335512		36	1
19207	7336058	5305-00-421-3986	36	20
19207	7348976		12	7
79470	7350508	4730-00-735-0508	16	25
79470	7350508	4730-00-735-0508	17	12
19207	7373260	2530-00-737-3260	12	5
19207	7373260	2530-00-737-3260	12	11
19207	7373354	5365-00-737-3354	15	3
19207	7411006	5340-00-741-1006	11	5
19207	7411008	5340-00-741-1008	8	7
19207	7411017	5360-00-741-1017	11	7
19207	7411021	2530-00-137-9235	19	1
19207	7411023	4720-00-203-9658	13	12
19207	7411023	4720-00-203-9658	14	1
19207	7411027	4010-00-741-1027	24	5
19207	7411028	5310-00-741-1028	24	4
19207	7411036	2530-00-741-1036	26	11
19207	7411041	5310-00-427-0043	29	3
19207	7411042	2510-00-741-1042	29	1
19207	7411047	5315-01-164-6493	31	18
80212	7411076		13	8
19207	7411077	2530-00-741-1077	13	13
19207	7411200	5310-00-741-1200	33	11
19207	7411378	5310-00-741-1378	21	9
19207	7411378	5310-00-741-1378	21	9
19207	7411379	5310-00-741-1379	21	8
19207	7411429	5330-00-741-1429	21	16
19207	7411760	5306-00-741-1760	9	20
19207	7412068	2530-00-741-2068	10	7
63477	7412079	4730-00-729-6437	13	4
63477	7412079	4730-00-729-6437	14	6
19207	7412088	5310-00-741-2088	13	1
19207	7412088	5310-00-741-2088	14	5
19207	7412103	5365-00-741-2103	9	38
19207	7412120	5310-00-741-2120	9	16
19207	7412228	5306-00-741-2228	35	28
19207	7412233	2510-00-741-2233	35	4
19207	7412234	2510-00-741-2234	35	14
19207	7412237		33	15
19207	7412239		34	1
19207	7412242	5330-00-741-2242	35	12
19207	7412247	2510-00-741-2247	35	7
19207	7412249	4730-00-741-2249	35	5
19207	7412251	5310-00-741-2251	34	11
19207	7412252	5310-00-741-2252	34	12
19207	7412255	4820-00-142-2099	32	22
19207	7412276	5310-00-741-2276	35	13
19207	7412279	5330-00-741-2279	33	21
19207	7412282	5315-00-741-2282	35	27
19207	7412283		35	9
19207	7412285	5315-00-741-2285	35	22
19207	7412286	5315-00-741-2286	35	17
19207	7412286	5315-00-741-2286	35	26
19207	7412295	4010-00-741-2295	35	10
19207	7412303	5310-00-741-2303	33	25
19207	7415746-1		7	13
19207	7521629	5306-00-275-5700	22	24
19207	7521631	5306-00-752-1631	22	22
19207	7521633	5310-00-752-1633	22	5
19207	7521650	5310-00-151-8992	22	12
19207	7521663	2530-00-026-0251	22	21
19207	7521664	2530-00-293-1752	22	23
19207	7521667	2530-00-752-1667	22	19
19207	7521711	5310-00-752-1711	11	20
19207	7521787	5330-00-599-4230	22	4
19207	7526018	6220-00-752-6018	1	10
19207	7526020	6220-00-752-6020	1	8
19207	7534653	2540-00-924-0315	38	5
19207	7534653	2540-00-924-0315	41	21
19207	7534653	2540-00-924-0315	42	26
19207	7534675	2590-00-790-2293	28	14
19207	7534677	2590-00-790-2292	28	11
19207	7534680	2590-00-790-2289	28	3
19207	7534682	2590-00-790-2291	28	8
19207	7534685	5365-00-819-7025	28	4
19207	7534686		28	12
19207	7534687	5315-00-790-2290	28	7
19207	7534690	5315-00-816-5491	28	17
19207	7534694	2590-01-137-3371	28	10
19207	7535620	5340-00-766-6336	41	36
19207	7535643	5340-00-766-3330	43	3
19207	754653		40	19
19207	7745464	4730-00-419-9425	13	14
19207	7745464	4730-00-419-9425	14	4
19207	7760599	5935-00-776-0599	4	2
19207	7760599	5935-00-776-0599	4	2
19207	7973930		13	13
19207	7973930		14	2
19207	7979250	5340-01-185-2810	4	18
19207	7979296	5306-00-797-9296	20	10
19207	7979296	5306-00-797-9296	20	10
19207	7979373	9905-00-282-7489	47	1
19207	7979529	2530-00-179-3393	26	13
19207	7979573		29	2
19207	7979574		29	10
97554	7979599	2530-00-192-8930	18	5
19207	7979602	1095-01-141-4814	18	4
97554	7979605	2530-00-192-8928	18	10
19207	7979608	5360-00-700-4429	18	9
19207	7979610	5340-00-178-1441	18	7
19207	7979611	1095-01-146-7686	18	5
19207	7979622		35	18
19207	7979633	4710-00-143-9053	32	21
19207	7979634	5306-00-937-2321	35	23
19207	7979635		32	15
19207	7979660		35	19
63477	7979691	4730-00-773-2163	15	2
19207	7979710	2510-00-177-9014	35	3
19207	7979735	9905-00-634-5351	47	1
19207	7979840	2540-00-205-0603	45	1
19207	7979962	3120-00-347-5900	26	18
19207	7979971	5315-00-536-3865	26	4
19207	7979972	5306-00-174-4246	26	7
19207	7979972	5306-00-174-4246	27	18
19207	7979974	2590-00-670-1997	4	14
19207	7979974	2590-00-670-1997	26	14
19207	7979980	5340-00-314-0760	26	1
19207	7979985		4	17
19207	7996977	9905-00-831-6271	47	1
19207	8238375		11	2

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NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
19207	8327047	5306-00-174-4311	29	8
19207	8328033	5306-00-523-7535	9	19
19207	8330813	5310-00-270-8834	26	17
19207	8330821	5310-00-270-8832	26	16
19207	8331226		35	40
19207	8331536	5340-00-281-1446	5	3
19207	8331537	5340-00-281-1444	5	2
23705	8331538	4730-00-696-2972	26	9
19207	8331541	5360-00-699-8489	26	2
19207	8331541		27	4
19207	8331542	5310-00-693-0738	26	3
19207	8331543	5340-00-537-2212	35	44
19207	8331544	5330-00-575-9791	35	46
19207	8331941	2530-00-696-2971	7	12
19207	8331944-1		7	4
19207	8331946	5340-00-693-0739	7	6
19207	8331947		31	6
19207	8331948	2510-00-693-0741	31	10
19207	8331949		31	4
19207	8331950	4010-00-693-0743	31	16
19207	8331951		31	3
19207	8331952	2540-00-693-0744	31	24
19207	8332586		13	2
19207	8338561	5935-00-833-8561	4	9
19207	8338561	5935-00-833-8561	4	9
19207	8338561	5935-00-833-8561	5	7
19207	8338561	5935-00-833-8561	5	7
19207	8338562	5970-00-833-8562	4	7
19207	8338562	5970-00-833-8562	4	7
19207	8338562	5970-00-833-8562	5	8
19207	8338562	5970-00-833-8562	5	8
19207	8338564	5940-00-399-6676	4	8
19207	8338564	5940-00-399-6676	4	8
19207	8338564	5940-00-399-6676	5	9
19207	8338564	5940-00-399-6676	5	9
19207	8338566	5935-00-572-9180	4	5
19207	8338567	5310-00-833-8567	4	4
19207	8342194	4010-00-032-2902	19	12
19207	8342291	5935-00-679-1519	36	2
19207	8344934	5315-00-597-6079	11	13
19207	8347212	5340-00-040-2364	4	13
19207	8347213	5340-00-040-2365	4	15
19207	8357982		18	14
19207	8357988		11	10
79470	8365390	4730-00-289-4937	13	11
19207	8375986		22	9
19207	8380420	9320-00-451-8080	BULK	4
19207	8380431	5330-00-415-1488	40	14
19207	8380431	5330-00-415-1488	42	40
19207	8380496		42	8
19207	8384038	2510-01-111-7097	31	23
19207	8384070	2510-00-571-6968	31	19
19207	8384071	2510-00-535-6797	31	7
19207	8384072	2510-00-590-9734	31	1
19207	8384097	4930-01-162-3855	35	2
19207	8384102	5365-01-158-6311	35	42
19207	8384106	2540-00-420-4988	35	39
19207	8384113		35	38
19207	8384114		35	38
19207	8384116		32	8
19207	8384130	5340-00-472-1942	35	47
19207	8384133		30	2
19207	8384134		30	5
19207	8384138		30	6
19207	8384143		35	37
19207	8384144		35	1
19207	8384191		5	10
19207	8384426	9905-00-634-5350	47	3
19207	8384434	9905-00-078-3721	47	3
19207	8384437	9905-00-634-5271	47	3
19207	8384441	9905-00-050-8792	47	3
19207	8410185	2530-00-391-1209	11	11
19207	8666561	5310-00-682-5631	36	19
19207	8681873		33	8
19207	8681874		33	22
19207	8681875		34	9
19207	8681876		34	6
19207	8681877	5305-00-182-9313	33	14
19207	8681877	5305-00-182-9313	33	28
19207	8681877	5305-00-182-9213	34	15
19207	8681878		33	20
19207	8681879		33	23
19207	8681880		33	19
19207	8681881		33	24
19207	8681882		33	9
19207	8681883		33	6
19207	8681884		34	8
19207	8681885		33	10
19207	8681886		34	10
19207	8681887	4510-00-318-8207	33	2
19207	8681887	4510-00-318-8207	33	16
19207	8681887	4510-00-318-8207	34	2
19207	8681888	4510-00-318-8208	33	3
19207	8681888	4510-00-318-8208	33	17
19207	8681888	4510-00-318-8208	34	3
19207	8681889		33	5
19207	8681890		33	27
19207	8681891		33	13
19207	8681892		34	14
19207	8681893		34	5
19207	8681930	2530-00-886-8066	25	9
19207	8681933	2590-00-177-8056	25	7
19207	8681934		25	4
19207	8683516	2590-00-830-6663	5	4
19207	8683587	9905-00-815-7673	47	3
19207	8683588	9905-00-770-9155	47	3
19207	8683589	9905-00-815-7675	47	3
19207	8683590	9905-00-815-7674	47	3
19207	8683593		15	7
19207	8683594		15	12
19207	8683595	2530-00-177-9295	17	3
19207	8683600	2530-00-930-8232	16	2
19207	8683601	4720-00-805-0526	16	23
83397	8683602		16	9
19207	8683603		16	20
19207	8683604		16	6
19207	8683605	5360-00-771-6972	16	24
19207	8683606	5360-00-770-9156	16	10
19207	8683607		17	10
19207	8689210	4710-00-277-5529	BULK	1

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FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
19207	8689833	5340-01-046-8106	31	14
19207	8698433	5340-00-231-7428	40	13
19207	8698433	5340-00-231-7428	42	39
19207	8719915	1440-00-677-0202	21	13
18876	8720025	5306-00-335-4768	21	20
19207	8720515	5360-00-699-9018	10	6
19207	8720517	2530-00-522-4183	9	11
19207	8720517	2530-00-522-4183	9	27
19207	8733908	2530-00-159-8755	9	43
19207	8733909	2530-00-159-8756	9	43
19207	8733918	4710-00-630-9928	13	5
19207	8733920	4710-00-566-7133	13	7
19207	8733922	4710-00-566-7134	13	5
19207	8733926	3040-00-150-7127	9	6
19207	8733932	2530-00-133-9831	9	17
19207	8733933	2530-01-083-5641	9	17
19207	8733935	5310-00-314-0764	9	4
19207	8733935	5310-00-314-0764	9	32
19207	8733936	5310-00-314-0765	9	3
19207	8733936	5310-00-314-0765	9	33
19207	8733937	5310-00-322-7260	9	2
19207	8733937	5310-00-322-7260	9	34
19207	8735829		35	43
19207	8741646	6220-00-775-2384	2	3
19207	8741650	6220-00-433-5966	2	6
19207	8741749	2590-00-611-7107	32	11
19207	8742442	9905-00-078-3720	47	3
19207	8742443	9905-00-050-8793	47	3
19207	8742444	9905-01-061-4282	47	3
19207	8742445		47	3
19207	8747908	2590-00-611-7883	4	15
19207	8747908	2590-00-611-7883	4	15
19207	8747909	2590-00-611-7884	4	15
19207	8747910	2590-00-622-4588	4	1
19207	8759465	2510-00-231-7444	41	35
19207	8764667	4730-01-139-9798	16	11
40342	8764668	4730-00-805-0677	16	7
40342	8764670	4730-00-805-0678	16	21
19207	8764672		17	14
19207	8764692	4820-00-770-9160	17	8
19207	8764697		16	1
96906	8764705		17	23
19207	8764719		15	13
19207	8764720		17	15

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APPENDIX G

ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I. INTRODUCTION

This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational maintenance.

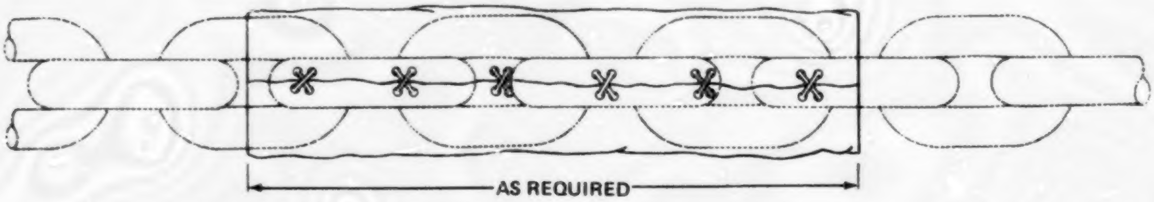
A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure that covers fabrication criteria.

All bulk materials needed for manufacture of an item are listed by part number or specification number on the illustration.

Section II. MANUFACTURED ITEMS PART NUMBER INDEX

PART NUMBER	ITEM	PAGE NUMBER	FIGURE NUMBER
1705812-1	Chain Cover	G-1	G-1
2775529-54	Copper Tube	G-2	G-2
2775529-60	Copper Tube	G-2	G-2
33-H-787-125-72	Rubber Hose	G-2	G-3
44-T-5805-25-79	Metallic Tube	G-2	G-4
4518080-2	Rubber Strip	G-3	G-5
7056678-10	Cable	G-3	G-6

Section III. MANUFACTURED ITEMS ILLUSTRATIONS



NOTES:
FABRICATE FROM NSN 8305-00-170-5812 STOCK.
CUT ENDS OF MATERIAL SQUARE.

Figure G-1. Chain Cover

TA233169

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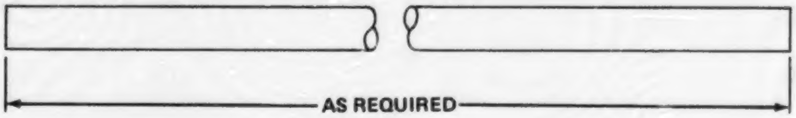
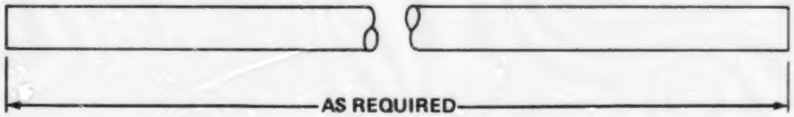
MANUFACTURED ITEMS ILLUSTRATIONS – CONTINUED



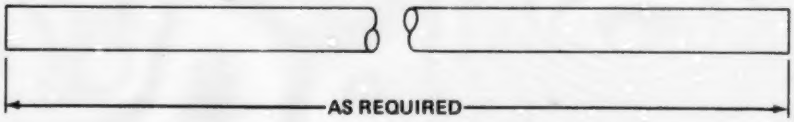
NOTES:
FABRICATE FROM NSN 4710-00-277-5529 STOCK.
CUT ENDS OF TUBE SQUARE.
REMOVE BURRS FROM INSIDE AND OUTSIDE OF TUBE.

Figure G-2. Copper Tube



NOTES:
FABRICATE FROM PART NUMBER 33-H-787-125 STOCK.
CUT ENDS OF HOSE SQUARE.

Figure G-3. Rubber Hose

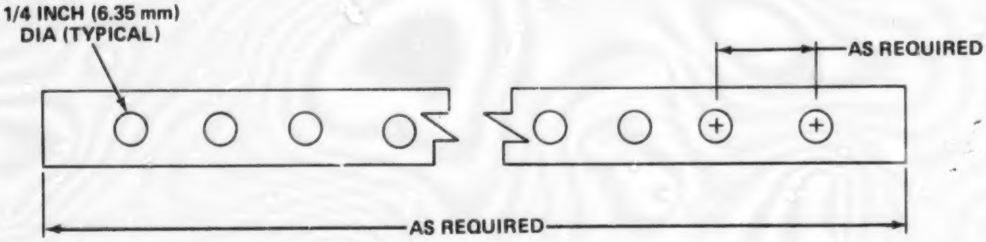


NOTES:
FABRICATE FROM PART NUMBER 44-T-5080-25 STOCK.
CUT ENDS OF TUBE SQUARE.
REMOVE BURRS FROM INSIDE AND OUTSIDE OF TUBE.

Figure G-4. Metallic Tube

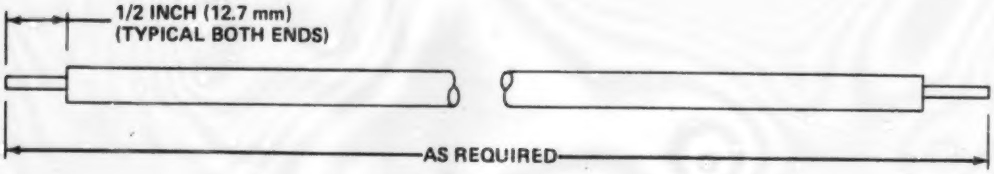
TA233170

MANUFACTURED ITEMS ILLUSTRATIONS – CONTINUED


1/4 INCH (6.35 mm)
DIA (TYPICAL)
AS REQUIRED
AS REQUIRED

NOTES:
FABRICATE FROM NSN 9320-00-451-8080 STOCK.
CUT ENDS OF STRIP SQUARE.
HOLE SPACING IS AS REQUIRED.

Figure G-5. Rubber Strip


1/2 INCH (12.7 mm)
(TYPICAL BOTH ENDS)
AS REQUIRED

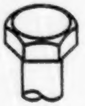
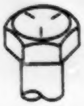
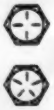
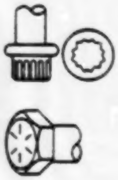
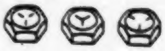
NOTE:
FABRICATE FROM NSN 6145-00-705-6678 STOCK.

Figure G-6. Cable

TA233171

APPENDIX H

TORQUE LIMITS

Current Usage	Much Used	Much Used	Used at Times	Used at Times
Quality of Material	Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings Manufacturer's marks may vary				
These are all SAE Grade 5 (3 line)				

CAUTION

If replacement capscrews are of a higher grade than originally supplied, use torque specifications for that placement. This will prevent equipment damage due to overtorquing.

Capscrew Body Size (Inches)	(Thread)	Torque Ft Lb (N•m)	Torque Ft Lb (N•m)	Torque Ft Lb (N•m)	Torque Ft Lb (N•m)
1/4	20	5 (7)	8 (11)	10 (14)	12 (16)
	28	6 (8)	10 (14)		14 (19)
5/16	18	11 (15)	17 (23)	19 (26)	24 (33)
	24	13 (18)	19 (26)		27 (37)
3/8	16	18 (24)	31 (42)	34 (46)	44 (60)
	24	20 (27)	35 (47)		49 (66)
7/16	14	28 (38)	49 (66)	55 (75)	70 (95)
	20	30 (41)	55 (75)		78 (106)
1/2	13	39 (53)	75 (102)	85 (115)	105 (142)
	20	41 (56)	85 (115)		120 (163)
9/16	12	51 (69)	110 (149)	120 (163)	155 (210)
	18	55 (75)	120 (163)		170 (231)
5/8	11	83 (113)	150 (203)	167 (226)	210 (285)
	18	95 (129)	170 (231)		240 (325)
3/4	10	105 (142)	270 (366)	280 (380)	375 (508)
	16	115 (156)	295 (400)		420 (569)
7/8	9	160 (217)	395 (536)	440 (597)	605 (820)
	14	175 (237)	435 (590)		675 (915)
1	8	235 (319)	590 (800)	660 (895)	910 (1234)
	14	250 (339)	660 (895)		990 (1342)

TA231176

TORQUE LIMITS – CONTINUED

NOTE

Always use the torque values listed above when specific torque values are not available.

Do not use above values in place of those specified in other sections of this manual; special attention should be observed when using SAE Grade 6, 7, and 8 capscrews.

The above is based on use of clean, dry threads.

Reduce torque by 10 percent when engine oil is used as a lubricant.

Reduce torque by 20 percent if new plated capscrews are used.

Capscrews threaded into aluminum may require reductions in torque of 30 percent or more of Grade 5 capscrews torque and must attain two capscrew diameters of thread engagement.

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SAMPLE

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REVERSE OF DA FORM 2028-2

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter=10 Millimeters=0.01 Meters=0.3937 Inches
1 Meter=100 Centimeters=1000 Millimeters=39.37 Inches
1 Kilometer=1000 Meters=0.621 Miles

WEIGHTS

1 Gram=0.001 Kilograms=1000 Milligrams=0.035 Ounces
1 Kilogram=1000 Grams=2.2 Lb
1 Metric Ton=1000 Kilograms=1 Megagram=1.1 Short Tons

LIQUID MEASURE

1 Milliliter=0.001 Liters=0.0338 Fluid Ounces
1 Liter=1000 Milliliters=33.82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter=100 Sq Millimeters=0.155 Sq Inches
1 Sq Meter=10,000 Sq Centimeters=10.76 Sq Feet
1 Sq Kilometer=1,000,000 Sq Meters=0.0386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter=1000 Cu Millimeters=0.06 Cu Inches
1 Cu Meter=1,000,000 Cu Centimeters=35.31 Cu Feet

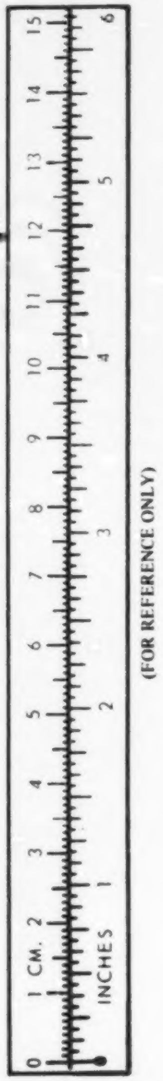
TEMPERATURE

5/9 (°F – 32) = °C
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5 C° +32=F°

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	5.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.385
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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